User Guide

3Com IntelliJack Switch NJ240FX

http://www.3com.com/
http://esupport.3com.com

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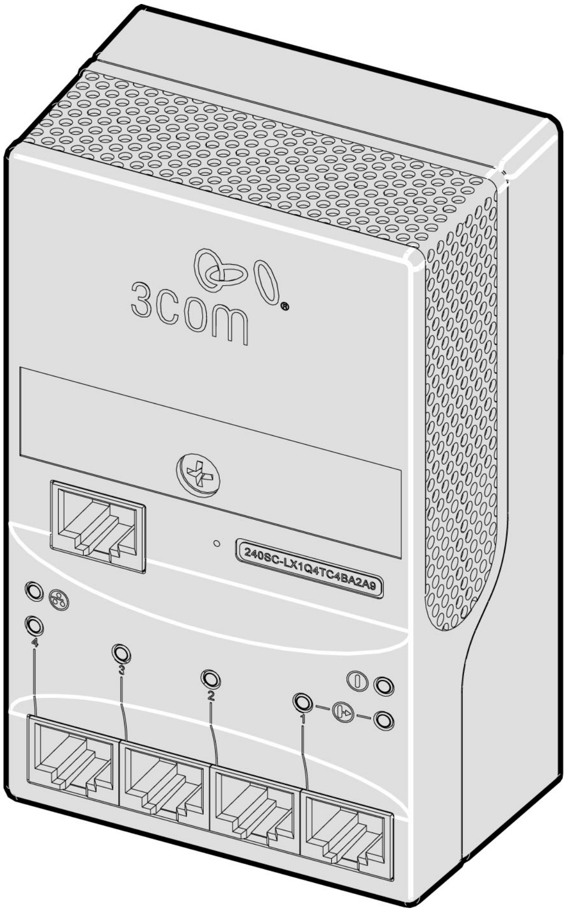
1

INSTALLING THE NJ240FX INTELLIJACK



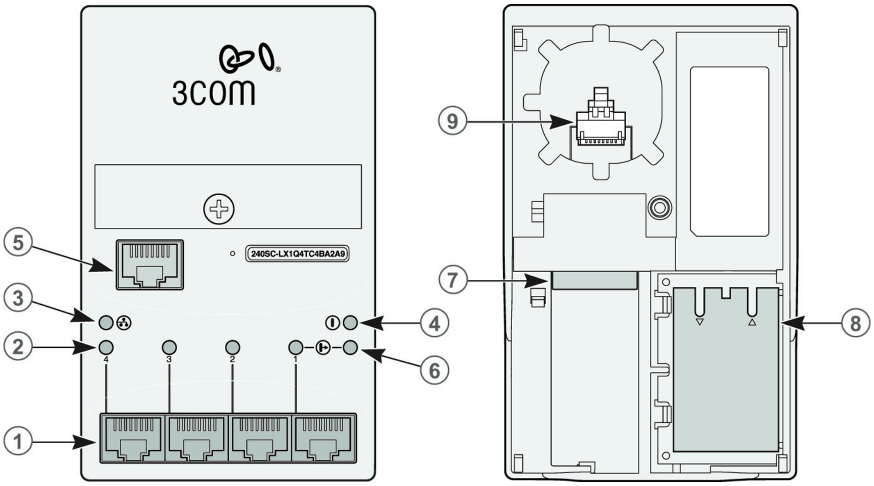
The 3Com NJ240FX IntelliJack is a 4-port, managed Ethernet switch that fits into any standard electrical wall outlet or data port opening. It brings switching capabilities for up to four networking devices, such as computer, printers, and Voice Over IP (VoIP) telephones to a single ***fiber*** uplink to the network. All ports feature 10/100 Mbps auto-negotiation. Power to the IntelliJack is provided through a power supply internal to the unit.

You can manage the NJ240FX using the included Central Configuration Manager. You can also use a supported SNMP management console as you would with any managed device on your network, but greater management and control is available through the Configuration Manager software. Management features include:

- Device discovery
- Port status (state, duplex, speed)
- Statistics
- Port control (port state, flow control, AutoMDI(X), frame rate limit)
- IPv4, IPv6 support
- 802.1P QoS/Priority
- 802.1Q compatible VLAN
- SNMPv3 support
- VLAN tag add/remove
- Firmware upgrade
- Rate limiting
- MAC filtering
- 802.1x port security
- User-configured VLAN IDs for management packets
- Port-based “calendar” function

About the NJ240FX

The following diagram shows the front and rear views of the IntelliJack:



1	RJ-45 switched PAN (personal area network) ports	Four 10/100 Mbps auto-negotiation ports, which the IntelliJack configures for 10 Mbps or 100 Mbps connections automatically.
2	Port LEDs and corresponding port numbers	Indicate network link status of each of the four RJ-45 PAN ports.
3	LAN LED	Indicates the link status of the LAN connection (fiber uplink). For more information, see “Checking the LEDs.”
4	Power LED	Indicates IntelliJack power status (green). For more information, see “Checking the LEDs.”
5	Pass-through port connector	The pass-through port allows for connection to a separate network. The data or voice traffic on this port does not flow through the switch.
6	Power-forwarding LED	Lights when an IEEE 802.3af powered device is plugged into Port #1 of the NJ240FX and power is being forwarded to that device. For more information, see “Checking the LEDs.”
7	AC power socket	The IntelliJack is powered by an internal power supply.
8	Fiber optic transceiver	Connects the NJ240FX switched RJ-45ports to the fiber optics network.
9	Pass-through port cable	The pass-through port allows for connection to a separate network. The data or voice traffic on this port does not flow through the switch.

Before You Begin

Before you begin installation, register your product at: http://eSupport.3com.com.

The IntelliJack is available in three connector types: -LC (3CRNJ240FXLCTAA-75), -SC (3CRNJ240FXSCTAA-75), and -ST (3CRNJ240FXSTTAA-75). Before you begin the installation, familiarize yourself with the following items, which are included with the IntelliJack:

- NJ240FX IntelliJack.
- Mounting plate
- Plastic cable housing tray
- Power cord
- Three screws
- Compact disc containing
  - User Guide and additional informational documents.
  - Configuration Manager software.

Planning the Installation

Because the depth of some wall and cubicle openings differ, observe the following requirements and recommendations before installing the IntelliJack:

- Ensure there is enough volume in the wall opening to accommodate fiber cables.
- Ensure there is clearance around the unit for proper cooling.
- The NJ240FX has been designed for installation into wall or cubicle openings that conform to NEMA standards.
- Make sure the distance between the back of the IntelliJack and the inside of the wall or cubicle opening is at least 25mm to maintain an acceptable bend radius on the cable.
- To ensure proper horizontal cabling functionality, adhere to the following standards during installation:
  - ANSI/TIA/EIA-568
    Commercial Building Telecommunications Cabling Standard
  - ANSI/TIA/EIA-569
    Commercial Building Standard for Telecommunications Pathways and Spaces

The network cabling at your site (from the wiring closet to the wall or cubicle opening) may already be installed. If it is not, install the cabling following these general guidelines.

***NOTE**: It is recommended that a professional cable installer perform these procedures. Be sure to adhere to local safety and regulatory codes during the cable installation.*

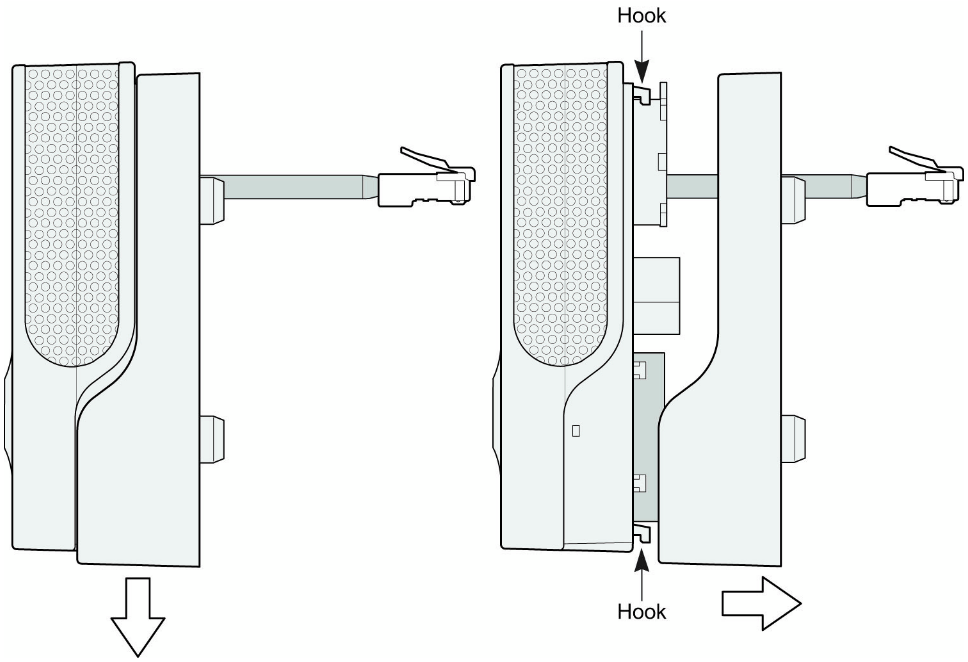
Setting up the Power Supply

Power to the IntelliJack Switch NJ240FX is provided via AC power. It has an internal power supply that can accept 100~240V AC power. A power connector is supplied that can be securely plugged into the unit.

⚠ *CAUTION: The supplied AC power cable is the only approved power cord that can be used with the unit and is required to maintain proper strain relief of the assembly and AC power cord.*

Mounting the IntelliJack

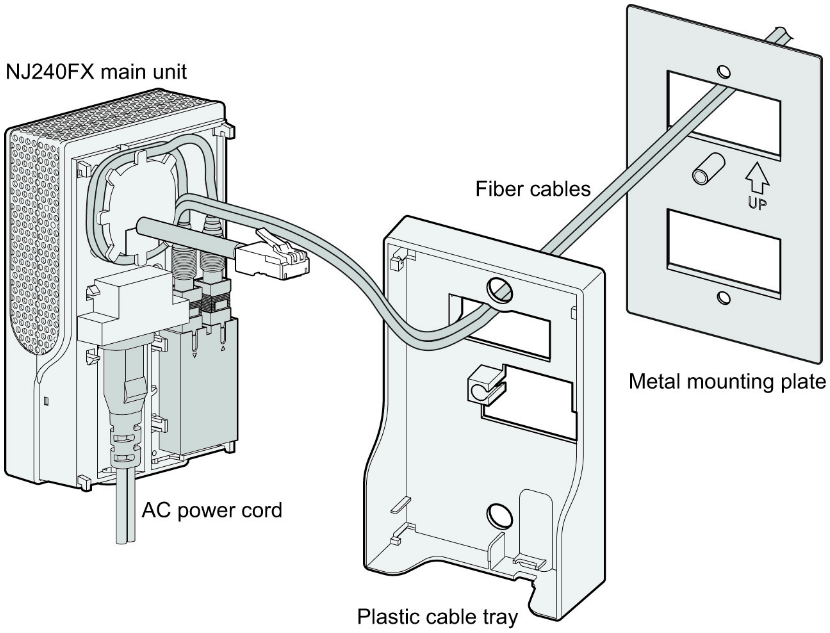
Before connecting the IntelliJack to the network, verify that the existing network cabling is connected to an active fiber port.



Instructions for unpacking and mounting the NJ240FX.

1 Remove the unit from its protective anti-static bag.

2 Remove any shipping tape from the unit and separate the metal plate from the main unit. Separate the plastic housing cable tray from the main unit by sliding it downward towards the four downstream ports and then away from the main unit.



3 Route the two fiber cables through the rectangular opening directly above the UP arrow indicator from the backside of the metal mounting plate (side opposite the metal mounting post). Pull through enough cable to allow yourself room to terminate the connections.

4 Route both fiber optic cables through the rectangular opening in the plastic housing cable tray.

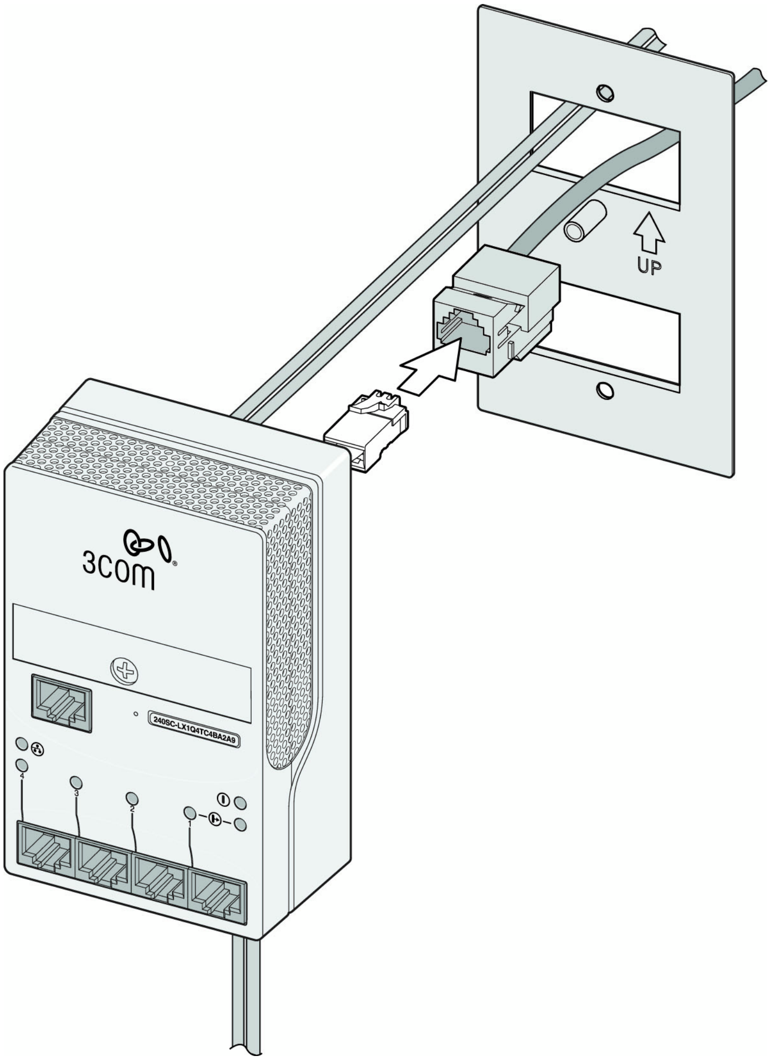
5 Attach both fiber optic cables to the fiber transceiver module located on the backside of the main unit.

6 Route the two fiber cables around the cable management feature approximately one turn until you end up in the area with no guide tabs.

7 Plug the supplied AC power cable into the mating plug on the backside of the main housing.

8 Reassemble the plastic cable tray to the main housing in the reverse order from step 2.

NOTE: Care should be taken when reassembling the plastic cable tray to the main housing so as not to damage the four installation guide hooks.



9 If the pass-thru feature is required, route the existing female RJ45 connector and cable through the same rectangular opening in the metal mounting plate. Again ensure you have allowed yourself enough room to terminate the connection.

10 If the pass-thru cable feature is required, connect the male RJ45 connector to the existing female RJ45 connector.

11 Position the mounting plate over the NEMA box with the UP arrow indicator facing upward for typical installations and secure into place using the two supplied shorter pan head machine screws.

12 Push back all excess cabling into the NEMA box.

13 Align the main housing mounting hole with the metal mounting boss on the metal mounting plate and secure with the supplied long oval head machine screw.

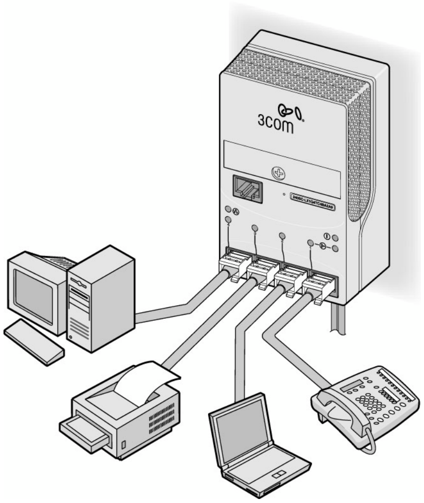
NOTE: An access hole is provided for installations that require the supplied AC power cord to be routed back into the NEMA box. Place the AC power cord between the metal and plastic housing cable tray and route through the lower rectangular opening in the metal mounting plate. Adjust cable for desired loop length before securing in place.

Connecting Devices to the NJ240FX

Once the power source and the data source have been verified in good working order and the IntelliJack has been installed and mounted, connect your networking devices (such as computers, printers, IP phones, cameras, etc.) to the IntelliJack.

The IntelliJack has two ways to connect devices:

1. RJ-45 Personal Area Network (PAN) Ports — any of the four switched ports on the bottom of the IntelliJack. All ports feature 10/100 Mbps auto-negotiation, which configures the NJ240FX IntelliJack for 10 Mbps or 100 Mbps connections automatically.
2. Pass-through port—a single pass-through port is provided that allows an additional device to be connected to a separate network segment through the same IntelliJack. The data or voice traffic that travels through the pass-through port, passes through the IntelliJack without being switched.



Checking the LEDs

You can verify the NJ240FX installation by checking the LEDs.

LED	Description
(LAN)	n On—the IntelliJack is connected to the network and a link has been established. n Off—there is no connection to the network.
(Power)	n On—the IntelliJack switch is receiving power. When you first connect power to the IntelliJack, there is a delay of approximately 5 seconds. The power LED light blinks once or twice before remaining solid on. n Off—the IntelliJack is not receiving power.
(Power-forwarding)	n On—the IntelliJack is connected to and is forwarding power to an IEEE 802.3af-compliant device. n Off—the IntelliJack is not connected to or is not forwarding power to an IEEE 802.3af-compliant device.
4, 3, 2, 1 PAN PORTS	n On—a device is connected to the IntelliJack switch and a link has been established. n Off—no link has been established.

2 INSTALLING THE CONFIGURATION MANAGERS

Once you have installed the NJ240FX hardware, you need to configure it for use on your particular network. To configure the NJ240FX, install the Local and Central Configuration managers.

NOTE: You will use the Local Configuration Manager for initial configuration of the NJ240FX on your network. It's usually easiest if you load this software on a laptop and use it to configure IntelliJacks as you install them.

The NJ240FX Central Configuration Manager is used for advanced configuration and management of one or more NJ240FXs on your network. This software should be installed on the machine you plan to use to manage your NJ240FXs from a remote location—perhaps the same console you use for SNMP management.

System Requirements

The machine you install the software on should meet the following requirements:

- Pentium processor
- Minimum of 15MB disk space
- Windows 2000, Windows XP Pro (required for IPv6 support), or Windows NT 4.0 with Service Pack 6 installed (While Windows 95 and Windows 98 are not recommended operating systems for use with management platforms, the Configuration Manager software may work with them.)

NOTE: The NJ240FX is designed with a dual mode IP stack. The unit can accept and respond to commands over IPv4 or IPv6. The mode of operation of the Central Configuration Manager will determine whether specific IPv4 or IPv6 parameters are displayed and can be configured by the CCM.

Installing the Local and Central Configuration Managers

Run the following steps to install the Configuration Manager software:

1. Insert the NJ240FX CD into your Windows 2000, Windows XP Pro, or Windows NT computer.
2. If your computer is configured to Auto-Play CDs, the installation will start automatically. If not, double-click the setup.exe icon on the CD.
3. Click Next to continue.
4. Carefully read the license agreement. If you agree, select "I accept the terms in the license agreement" and click Next to continue.
5. The installation will present Readme Information. This is also found in the Readme.txt file on the installation CD. Please read the information and click Next to continue.
6. Enter your user and organization names. You can also specify whether you want the management programs to be available to just you or to anyone that may use the computer you're installing these applications on. Select the option you prefer and click Next.

NOTE: If you have a previous version of the Central Configuration Manager installed in another directory, you will lose access to any database or log files that are stored there. Prior to completing the installation, you should copy these files to the same directory into which you plan to install the configuration software.

7. The program files will be installed in the directory C:\Program Files\3Com\IntelliJack. If you want to change the location of the installation, click Change. Otherwise click Next to accept the default location and continue.
8. Select a typical or custom setup and click Next. The Typical installation will install both the Local Configuration Manager and the Central Configuration Manager on your system. The Custom installation option lets you install just one of the programs if you wish.
9. Review the settings you selected and click Install.
10. When the installation has completed, click the Finish button to close the installation utility.

    The installation utility will create two shortcut icons on the Desktop--one for the Local Configuration Manager and one for the Central Configuration Manager.

    You can also launch the programs from a program group you can access from the Start menu. The program group folder is labeled 3Com IntelliJack and can be found under the Programs menu.

3

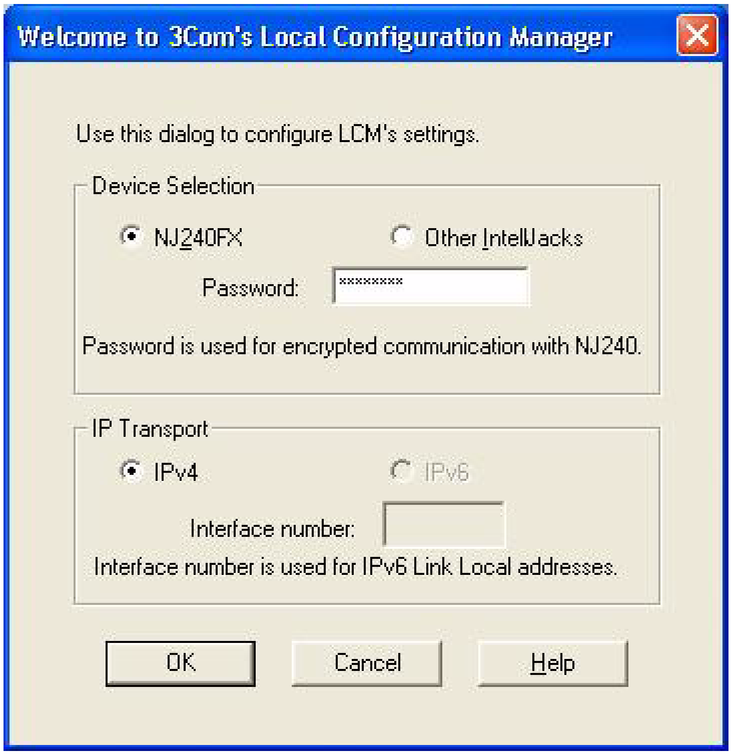
USING THE LOCAL CONFIGURATION MANAGER

Initializing the IntelliJack

Once you have installed the NJ240FX hardware on your network and the Local Configuration Manager software on your computer, you need to perform an initial configuration of the IntelliJack.

1 The first step is to connect your computer to the NJ240FX that you are installing. Attach an Ethernet cable from a computer running the Local Configuration Manager software to any one of the four personal area network (PAN) ports on the front of the NJ240FX.

2 Click on the desktop shortcut icon labeled IJ Local Config Mgr to start the program. When it launches, you will see a window like this:



Welcome to 3Com's Local Configuration Manager

Use this dialog to configure LCM's settings.

Device Selection

● NJ240FX   ○ Other IntelliJacks

Password: ********

Password is used for encrypted communication with NJ240.

IP Transport

● IPv4   ○ IPv6

Interface number:

Interface number is used for IPv6 Link Local addresses.

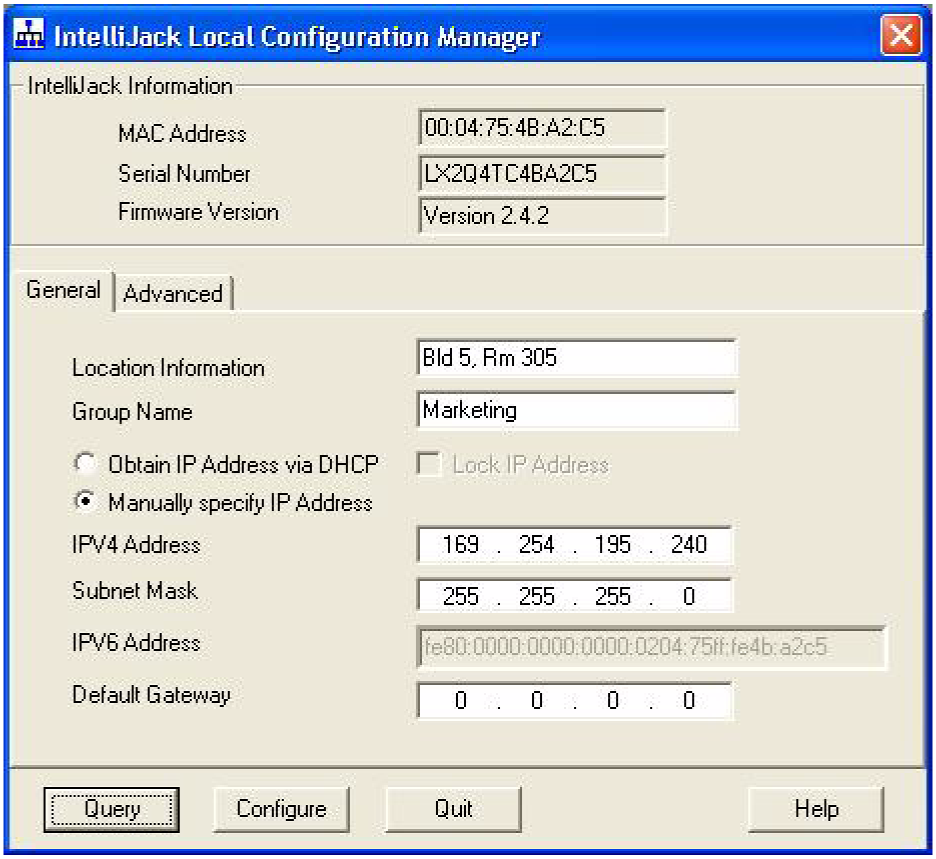
3 Select the type of IntelliJack switch you would like to manage.

4 Enter the password for the device. The default password is “password” (without the quotes). You will have the opportunity to specify a new password from within this application.

5 Select the transport mode you are using to communicate on your network. The IPv6 option will only be enabled if your operating system supports IPv6. (IntelliJacks prior to NJ240FX do not support IPv6.) The Interface number corresponds to the network interface in the computer running the LCM

application. If this computer has more than one network interface, it may be necessary to specify the correct interface number. You can use the Windows IPCONFIG DOS command to assist you in determining the correct interface number.

6 Click OK, and you will see this window:



IntelliJack Information

MAC Address: 00:04:75:4B:A2:C5

Serial Number: LX2Q4TC4BA2C5

Firmware Version: Version 2.4.2

Location Information: Bld 5, Rm 305

Group Name: Marketing

○ Obtain IP Address via DHCP

● Manually specify IP Address

□ Lock IP Address

IPV4 Address: 169 . 254 . 195 . 240

Subnet Mask: 255 . 255 . 255 . 0

IPV6 Address: fe80:0000:0000:0000:0204:75ff:fe4b:a2c5

Default Gateway: 0 . 0 . 0 . 0

7 The MAC address, Serial Number, and Firmware Version of the currently connected NJ240FX will appear at the top of the window. If you connect to another NJ240FX, you must click the Query button to refresh the window.

If you are not connected to any IntelliJacks, the MAC address field will display the message Not Connected. If the Not Connected message appears, check your connection to the IntelliJack and click the Query button.

8 Make sure the General tab is selected.

9 Enter Location Information for the NJ240FX you are currently configuring. This field can help you and other network managers identify this IntelliJack in the future. You may enter any information you like (up to 128 characters), but we recommend that you enter a logical, easy to follow description, such as “Building A, 3rd floor, room 315, West wall.”

10 Enter a Group Name for this IntelliJack. This can be any name you wish. With the Central Configuration Manager, you can perform management tasks on all IntelliJacks with the same group designation.

11 Select the method the NJ240FX should use to obtain an IP address. The NJ240FX can either get an IP address from an existing DHCP server on your network, or you can specify an address. If you elect to specify your own address, you should enter

the IP Address, Subnet Mask, and Default Gateway information in the appropriate fields.

NOTE: By default, the NJ240FX is configured to automatically obtain an IP address from a DHCP server. If no DHCP server exists, or if the NJ240FX cannot obtain an IP address, it will default back to its previously configured static IP address. If it had previously been assigned an IP address, it will default to that one. If it did not, it will default to the static IP address of 192.168.1.252.

12 If you wish, check the box next to Lock IP Address. Selecting this option will ensure that the IntelliJack will always use a particular address.

WARNING: If you lock an IP address and reserve it for this IntelliJack, make sure you configure your DHCP server so it won't distribute that address to other devices.

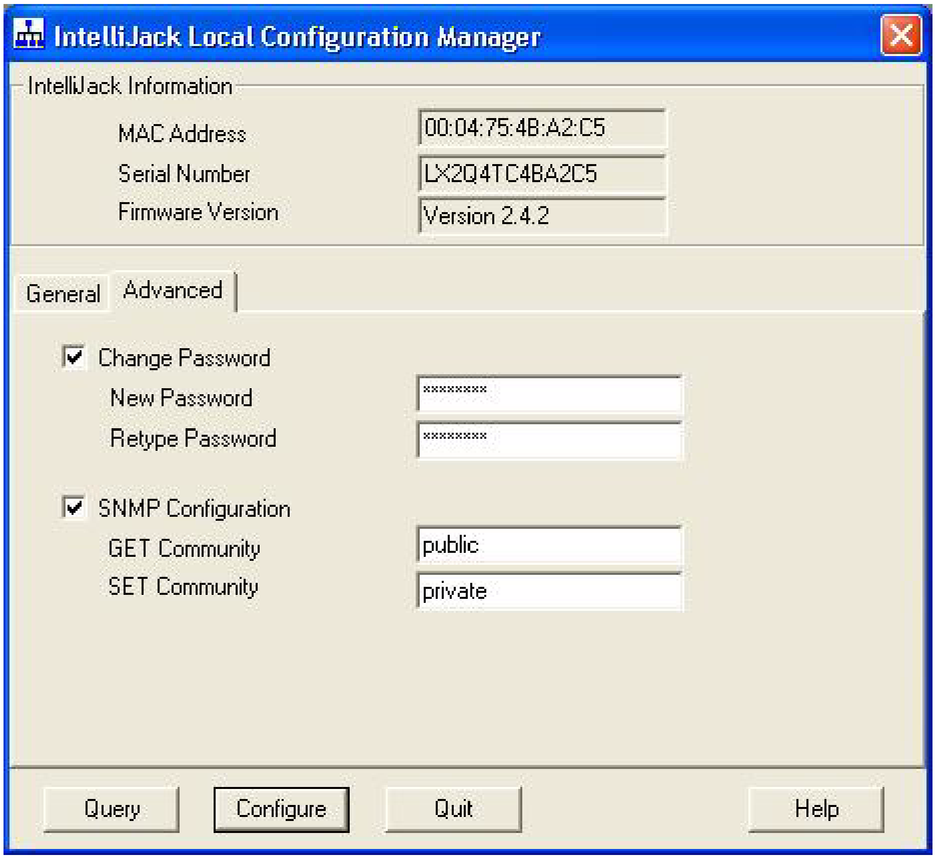
13 Click the Configure button. Any changes you specify are sent to the NJ240FX and will become effective immediately.

Those are the only steps *required* to initialize your NJ240FX.

Setting Advanced Options

If you want to change the default password of the NJ240FX or change SNMP community strings, you can configure these settings from either the Local Configuration Manager or the Central Configuration Manager (covered in the next chapter). In the Local Configuration Manager, both settings are found under the Advanced tab.

1 Select the Advanced tab on the IntelliJack Local Configuration Manager window.



IntelliJack Local Configuration Manager

IntelliJack Information

MAC Address 00:04:75:4B:A2:C5

Serial Number LX2Q4TC4BA2C5

Firmware Version Version 2.4.2

General | Advanced

☑ Change Password

New Password ********

Retype Password ********

☑ SNMP Configuration

GET Community public

SET Community private

2 To change the IntelliJack's configuration password, click on the box next to Change Password. Then enter the new password in both password fields. (You must enter the password twice to ensure you type it correctly.) The password you select can be any combination of letters and numbers between 8 and 32 characters.

3 To configure the NJ240FX for management with an SNMP console, select the SNMP Configuration box. Enter the GET Community string and SET Community string in the appropriate fields. Each field lets you enter any combination of letters and numbers up to 32 characters.

Note that this only applies to SNMP v1. If you are using SNMP v3, you will need to create SNMP profiles using the Central Configuration Manager.

4 Click the Configure button. The changes are sent to the NJ240FX and will become effective immediately.

NOTE: You should change the password to ensure that no one else can re-configure your system. Make sure you remember the new password you set. ***If you forget the new password, you will not be able to perform any other configuration tasks unless you send the device back to 3Com****.*

4

USING THE CENTRAL CONFIGURATION MANAGER

You should use the Local Configuration Manager to initialize each of the IntelliJacks installed on your network. Once you have completed that step, you can manage all of them with the Central Configuration Manager.

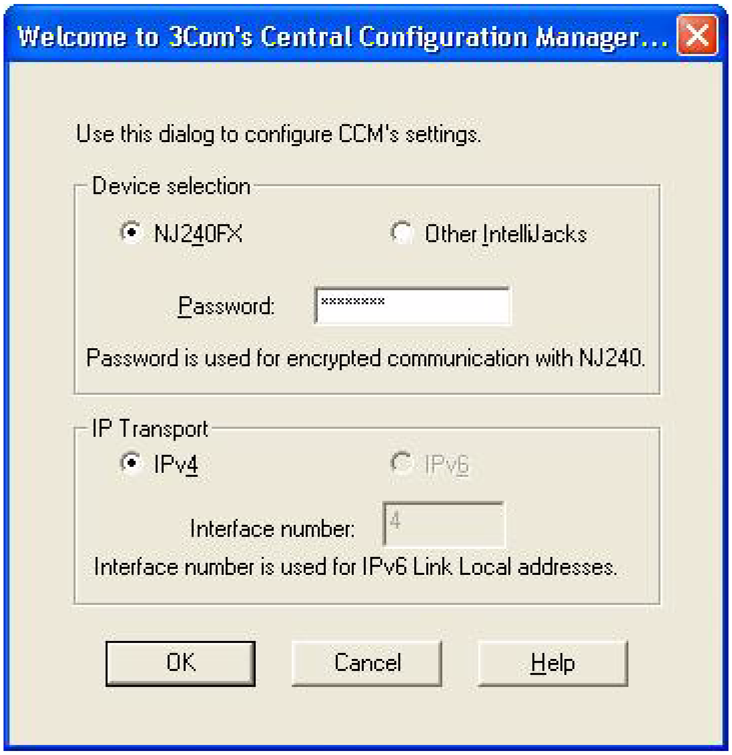
Install this program on any computer on your network you want to use as a central management console (See chapter 2, “Installing the Configuration Managers” for help). You can use the same machine that has your SNMP-based management platform. The Central Configuration Manager will be able to configure and manage all of the IntelliJacks that reside on your network.

We recommend that you keep the Central Configuration Manager (CCM) running on your machine. Information such as traps and alerts are sent to the CCM on a periodic basis. If you shut off the machine or close the configuration manager, you will not be able to receive this information.

Discovering IntelliJacks on Your Network

In order to manage the IntelliJacks on your network, the Central Configuration Manager needs to include them in its database. The easiest way to add new IntelliJacks to the database is to use the device discovery tool included in the Central Configuration Manager.

1 When you launch the Central Configuration Manager, you will see a welcome window like this one:



Welcome to 3Com's Central Configuration Manager...

Use this dialog to configure CCM's settings.

Device selection

● NJ240FX ○ Other IntelliJacks

Password: *********

Password is used for encrypted communication with NJ240.

IP Transport

● IPv4 ○ IPv6

Interface number: 4

Interface number is used for IPv6 Link Local addresses.

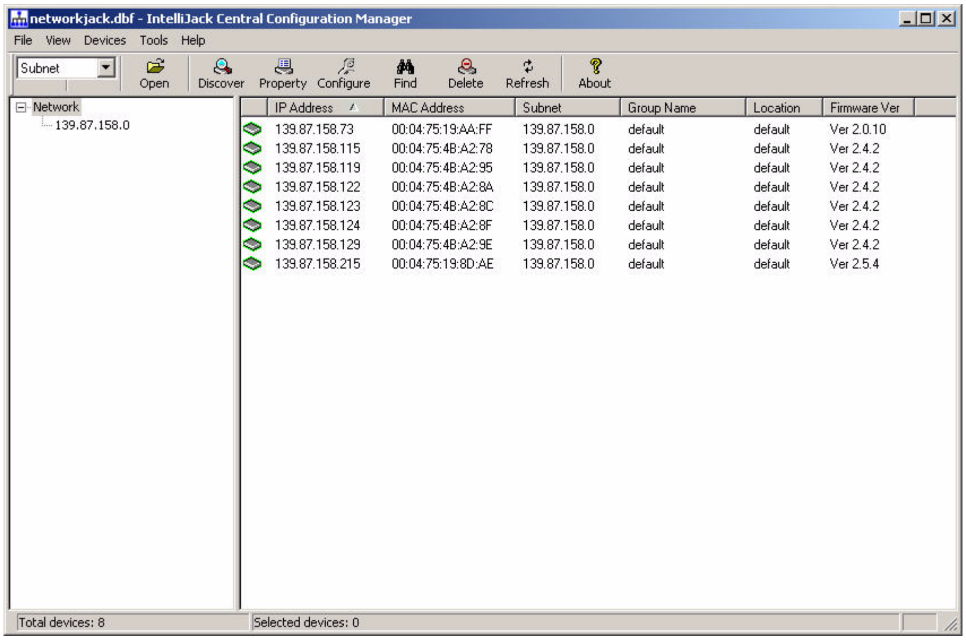
You should select the type of IntelliJack switch you would like to manage with the CCM software. If you are managing an NJ240FX IntelliJack, then enter the password ("password" by default) you specified when you first installed the IntelliJack switch. Entering a password is not required to communicate with other IntelliJacks.

Next select the IP transport you will use for communication on your network. The IPv6 option will only be enabled your operating system supports IPv6. (IntelliJacks prior to NJ240FX do not support IPv6.)

The interface number corresponds to the network interface in the computer running the CCM application. If this computer has more than one network interface, it may be necessary to specify the correct interface number. You can use the Windows IPCONFIG DOS command to assist you in determining the correct interface number.

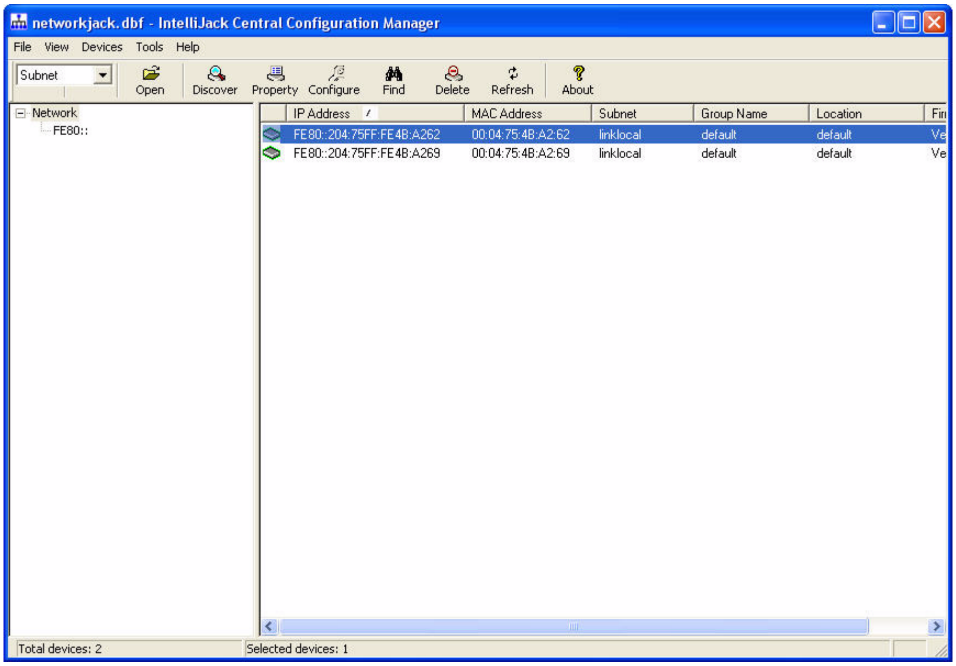
The CCM can only manage one type of IntelliJack switch at a time (i.e., either NJ240FX or NJ220). To switch between managing these two types of IntelliJacks without exiting the CCM, select CCM Settings from the View menu to display the CCM session configuration window. From here you can make the necessary changes. If you decide to change the type of IntelliJack that is being managed, you must re-discover the IntelliJacks on your network. If you want to change the IP transport used, you must restart the CCM.

2 Click OK, and you will see a window similar to this one if the CCM is operating in IPv4 mode and you have previously discovered IntelliJacks:



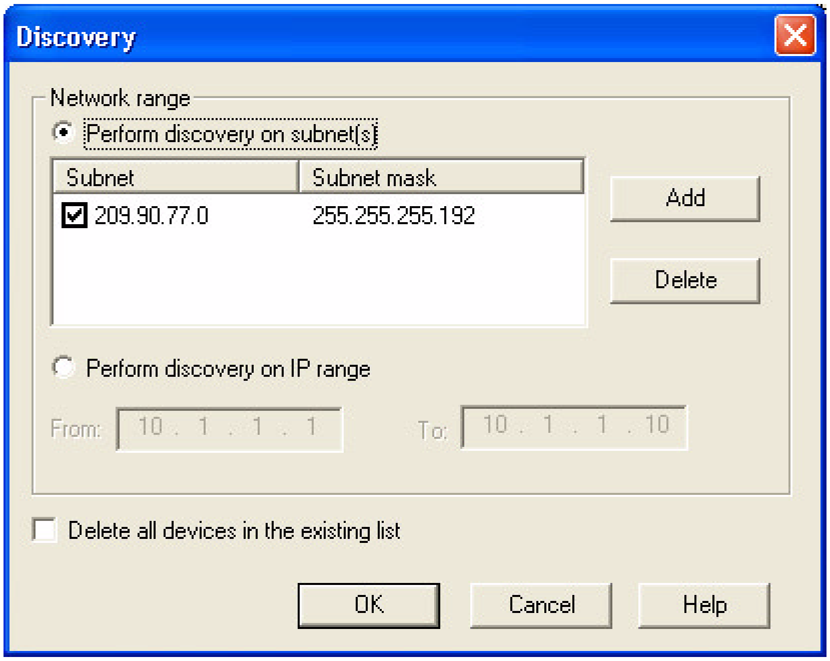
IP Address	MAC Address	Subnet	Group Name	Location	Firmware Ver
139.87.158.73	00:04:75:19:AA:FF	139.87.158.0	default	default	Ver 2.0.10
139.87.158.115	00:04:75:4B:A2:78	139.87.158.0	default	default	Ver 2.4.2
139.87.158.119	00:04:75:4B:A2:95	139.87.158.0	default	default	Ver 2.4.2
139.87.158.122	00:04:75:4B:A2:8A	139.87.158.0	default	default	Ver 2.4.2
139.87.158.123	00:04:75:4B:A2:8C	139.87.158.0	default	default	Ver 2.4.2
139.87.158.124	00:04:75:4B:A2:8F	139.87.158.0	default	default	Ver 2.4.2
139.87.158.129	00:04:75:4B:A2:9E	139.87.158.0	default	default	Ver 2.4.2
139.87.158.215	00:04:75:19:8D:AE	139.87.158.0	default	default	Ver 2.5.4

If the CCM is operating in IPv6 mode, it will look like this:



IP Address	MAC Address	Subnet	Group Name	Location	Fir
FE80::204:75FF:FE4B:A262	00:04:75:4B:A2:62	linklocal	default	default	Ve
FE80::204:75FF:FE4B:A269	00:04:75:4B:A2:69	linklocal	default	default	Ve

3 Select Discovery from the Devices menu or click the Discover button on the toolbar to load the following window (this window will load automatically the first time you run the Central Configuration Manager).



Discovery

Network range

● Perform discovery on subnet(s)

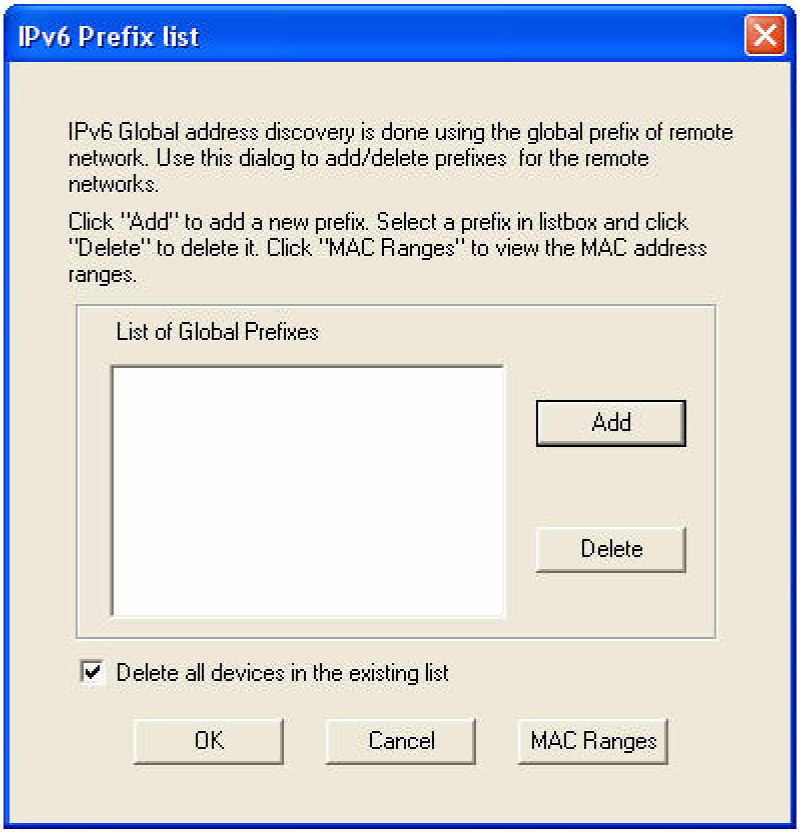
Subnet	Subnet mask
☑ 209.90.77.0	255.255.255.192

○ Perform discovery on IP range

From: 10 . 1 . 1 . 1 To: 10 . 1 . 1 . 10

□ Delete all devices in the existing list

If the CCM is operating in IPv6 mode, the window will look like this:



IPv6 Prefix list

IPv6 Global address discovery is done using the global prefix of remote network. Use this dialog to add/delete prefixes for the remote networks.

Click "Add" to add a new prefix. Select a prefix in listbox and click "Delete" to delete it. Click "MAC Ranges" to view the MAC address ranges.

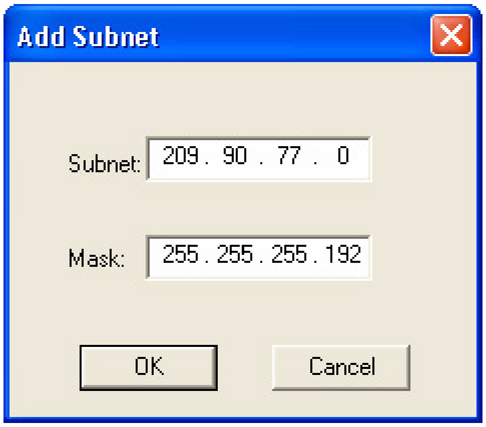
List of Global Prefixes

☑ Delete all devices in the existing list

NOTE: The default subnets are the ones your machine is connected to.

4 You can discover new devices based on a specific subnet or on a specific range of IP addresses.

   a To discover devices by subnet, select that option on the screen. Click the Add button to add a new subnet to the discovery list. The following box will appear:



Add Subnet

Subnet: 209 . 90 . 77 . 0

Mask: 255 . 255 . 255 . 192

   Fill in the Subnet and Mask fields and click OK.

   or

   b To discover devices within a certain IP range, select that option on the screen and complete the From and To fields.

5 If the box next to "Delete all devices in the existing list" is checked, the discovery process will replace all of the devices in your current database with the new devices it discovers. If unchecked, the discovery process will add newly discovered devices to the current database.

6 Click OK to start the discovery process.

The device discovery tool will return the following information from the IntelliJacks on your network:

- IP address
- MAC address
- Subnet address
- Group name
- Location information
- Firmware version

You can sort this information in ascending or descending order.

NOTE: Discovered devices are automatically added to the default database. This default database will open automatically when you launch the Central Configuration Manager. If you like, you can keep several database files, each with its own list of devices. For example, you may want a separate database for each subnet you manage. To save a database file or open another database file, select the Open Database or Save Database As option from the File menu.

You can view discovered devices many ways. On the left side of the toolbar, you can see a drop down box with options for either Subnet, Firmware Ver, or Group Name. The option you select in this box determines how the views are displayed in the left pane of the window.

When Subnet is selected (the default option), you will see a list of IP subnets to choose from. Selecting Network will show all of the discovered devices in the database. If you select a particular subnet, only the devices in that subnet will be displayed.

When Firmware Ver is selected, you will see a list of the different firmware versions loaded on the devices. This view is particularly useful if you want to select only the devices with an old firmware version so you can perform an upgrade.

When you select Group Name from the drop down list, the Central Configuration Manager will present a list of the different group names you have specified.

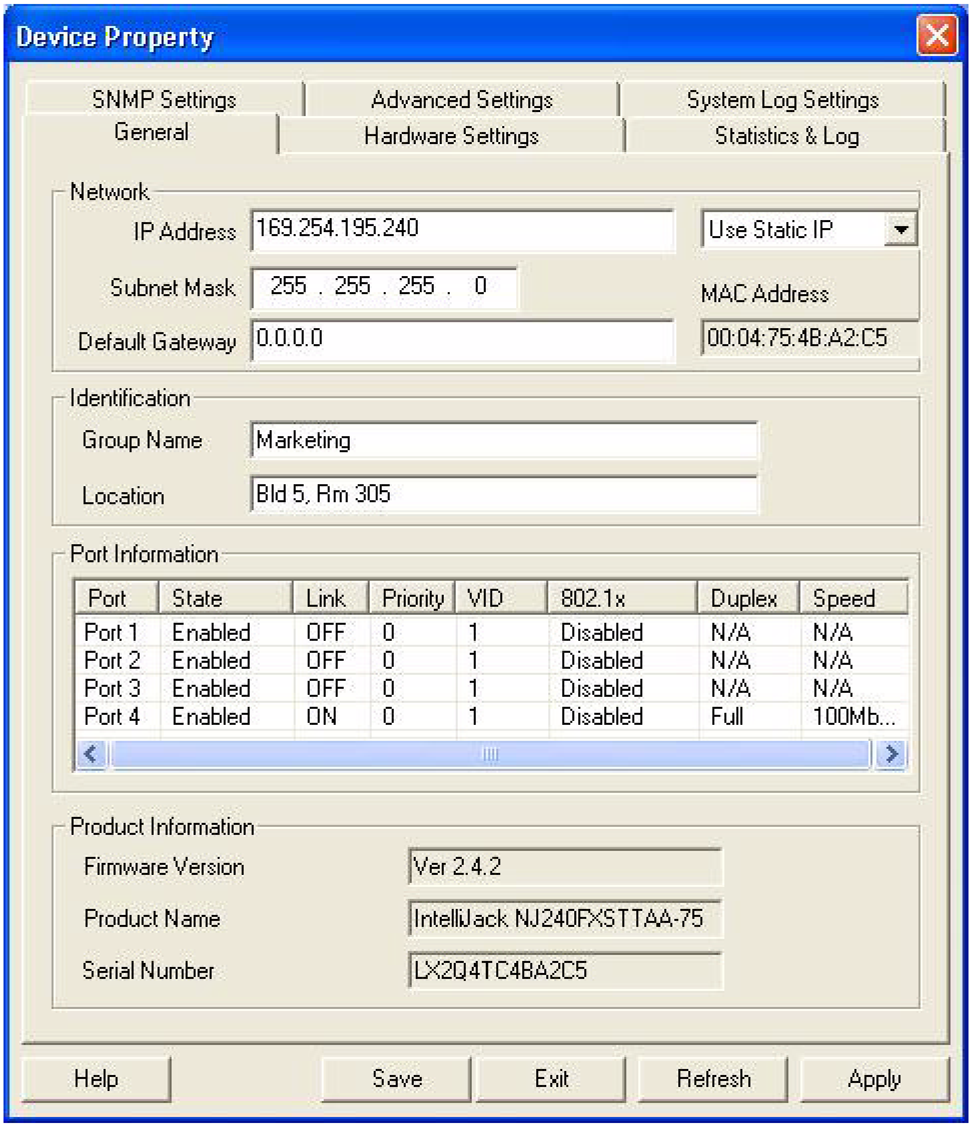
Viewing Device Properties

Once the database is populated with IntelliJacks on your network, you can begin to manage those devices. The main window of the Central Configuration Manager shows a list of devices in the current database with the information retrieved during the discovery process. You can view and configure the properties for a **single** NJ240FX using this window. To configure multiple devices at one time, see “Changing Device Configuration.” To get more detailed information about a device, you should check its properties.

The process for configuring one or more IntelliJacks is the same. You choose the changes or configurations you wish to make by selecting them from the various tabs in Device Properties (for changes to a single IntelliJack) or Configure (for single or multiple IntelliJacks). When you have finished making changes, click “Apply” or “OK”. You will be asked for your password. The configuration changes will not be made to the IntelliJack until your password has been correctly entered.

1 Select an IntelliJack from the devices list.

2 Select Property from the Devices menu or from the toolbar. You can also open this window by right-clicking your mouse and selecting Property.



Network

IP Address: 169.254.195.240 — Use Static IP

Subnet Mask: 255 . 255 . 255 . 0

MAC Address: 00:04:75:4B:A2:C5

Default Gateway: 0.0.0.0

Identification

Group Name: Marketing

Location: Bld 5, Rm 305

Port Information

Port	State	Link	Priority	VID	802.1x	Duplex	Speed
Port 1	Enabled	OFF	0	1	Disabled	N/A	N/A
Port 2	Enabled	OFF	0	1	Disabled	N/A	N/A
Port 3	Enabled	OFF	0	1	Disabled	N/A	N/A
Port 4	Enabled	ON	0	1	Disabled	Full	100Mb...

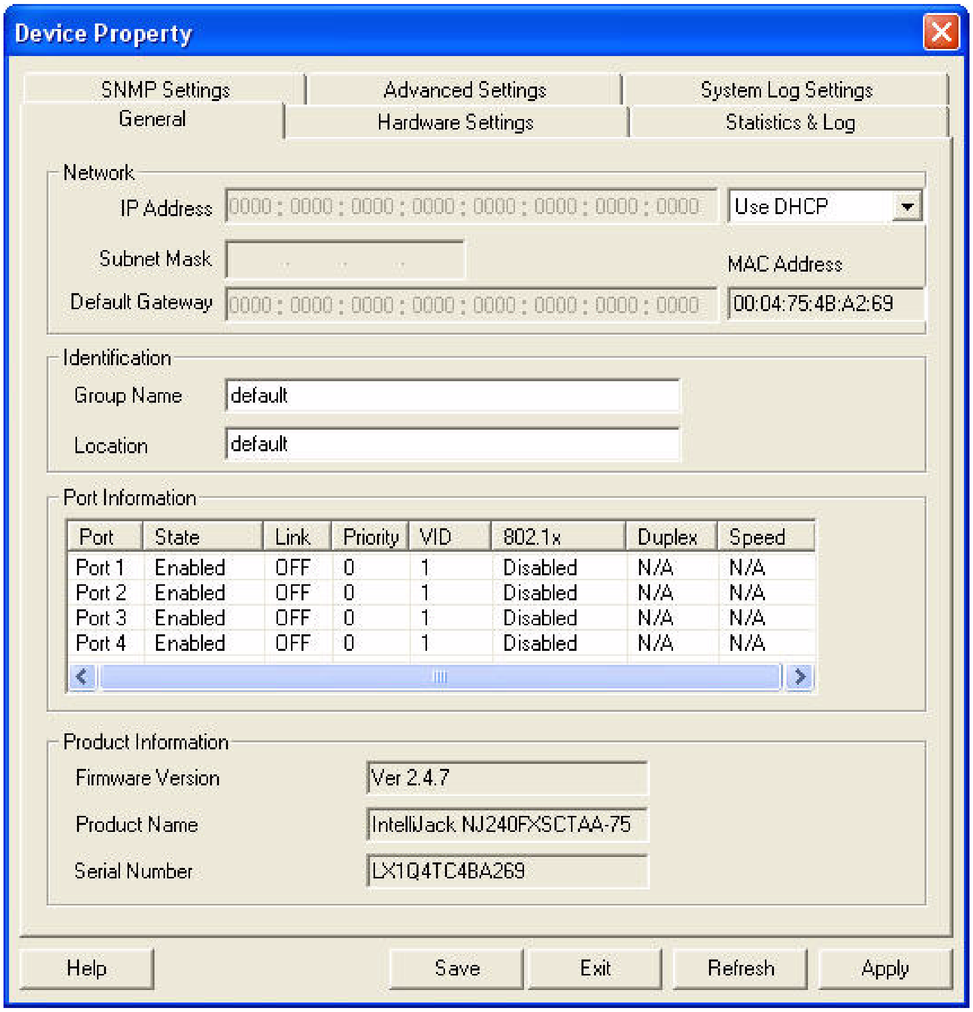
Product Information

Firmware Version: Ver 2.4.2

Product Name: IntelliJack NJ240FXSTTAA-75

Serial Number: LX2Q4TC4BA2C5

If the CCM is operating in IPv6 mode, the screen will look like this:



Network

IP Address: 0000 : 0000 : 0000 : 0000 : 0000 : 0000 : 0000 : 0000 — Use DHCP

Subnet Mask: . . .

Default Gateway: 0000 : 0000 : 0000 : 0000 : 0000 : 0000 : 0000 : 0000

MAC Address: 00:04:75:4B:A2:69

Identification

Group Name: default

Location: default

Port Information

Port	State	Link	Priority	VID	802.1x	Duplex	Speed
Port 1	Enabled	OFF	0	1	Disabled	N/A	N/A
Port 2	Enabled	OFF	0	1	Disabled	N/A	N/A
Port 3	Enabled	OFF	0	1	Disabled	N/A	N/A
Port 4	Enabled	OFF	0	1	Disabled	N/A	N/A

Product Information

Firmware Version: Ver 2.4.7

Product Name: IntelliJack NJ240FXSCTAA-75

Serial Number: LX1Q4TC4BA269

General Tab

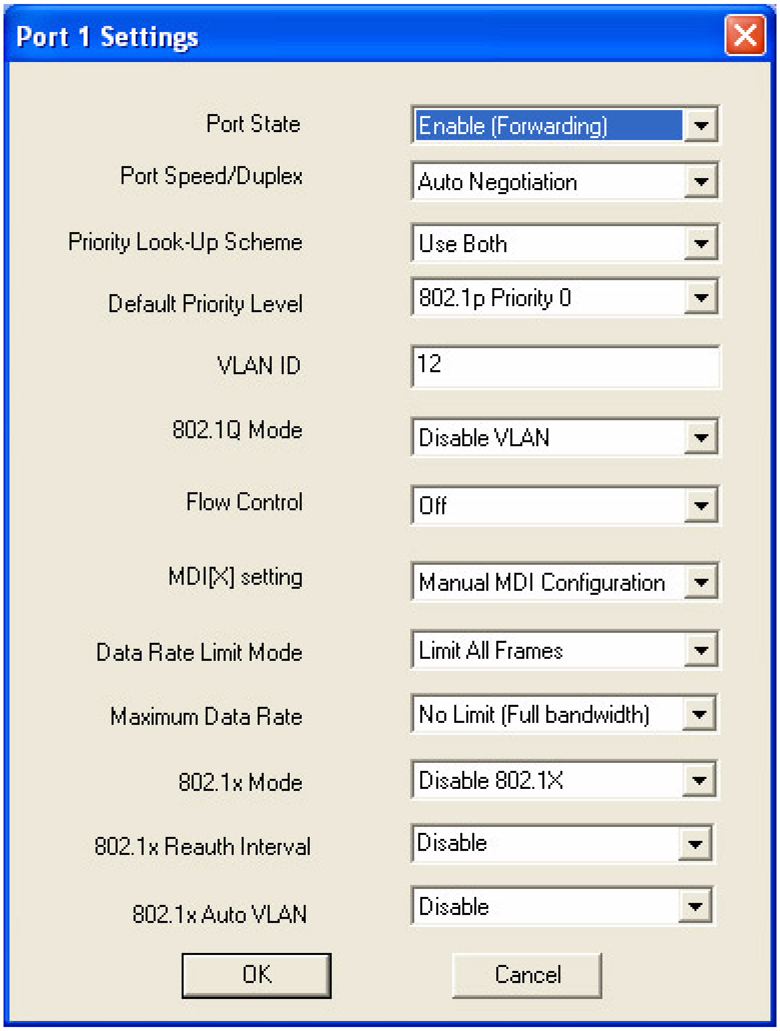
3 With the General tab selected, you can view and edit information about the device such as the IP address, subnet mask, default gateway, and whether it uses a static IP address or gets its address from a DHCP server. You can also view and edit the IntelliJack's Group Name and Location.

4 Click Apply to save any changes you make to the fields in this window.

Port Information

5 In the middle of this window you'll see information about each of the four PAN ports on the front of the IntelliJack. You can check to see if the port is Enabled or Disabled, if there is a network link, its priority, whether or not it's part of a virtual network (VLAN), its 802.1x security setting, if it's running at half or full duplex, and what speed it's set for.

You can double-click on any of the ports to find out more information or configure that particular port.



Port State	Enable (Forwarding)
Port Speed/Duplex	Auto Negotiation
Priority Look-Up Scheme	Use Both
Default Priority Level	802.1p Priority 0
VLAN ID	12
802.1Q Mode	Disable VLAN
Flow Control	Off
MDI[X] setting	Manual MDI Configuration
Data Rate Limit Mode	Limit All Frames
Maximum Data Rate	No Limit (Full bandwidth)
802.1x Mode	Disable 802.1X
802.1x Reauth Interval	Disable
802.1x Auto VLAN	Disable

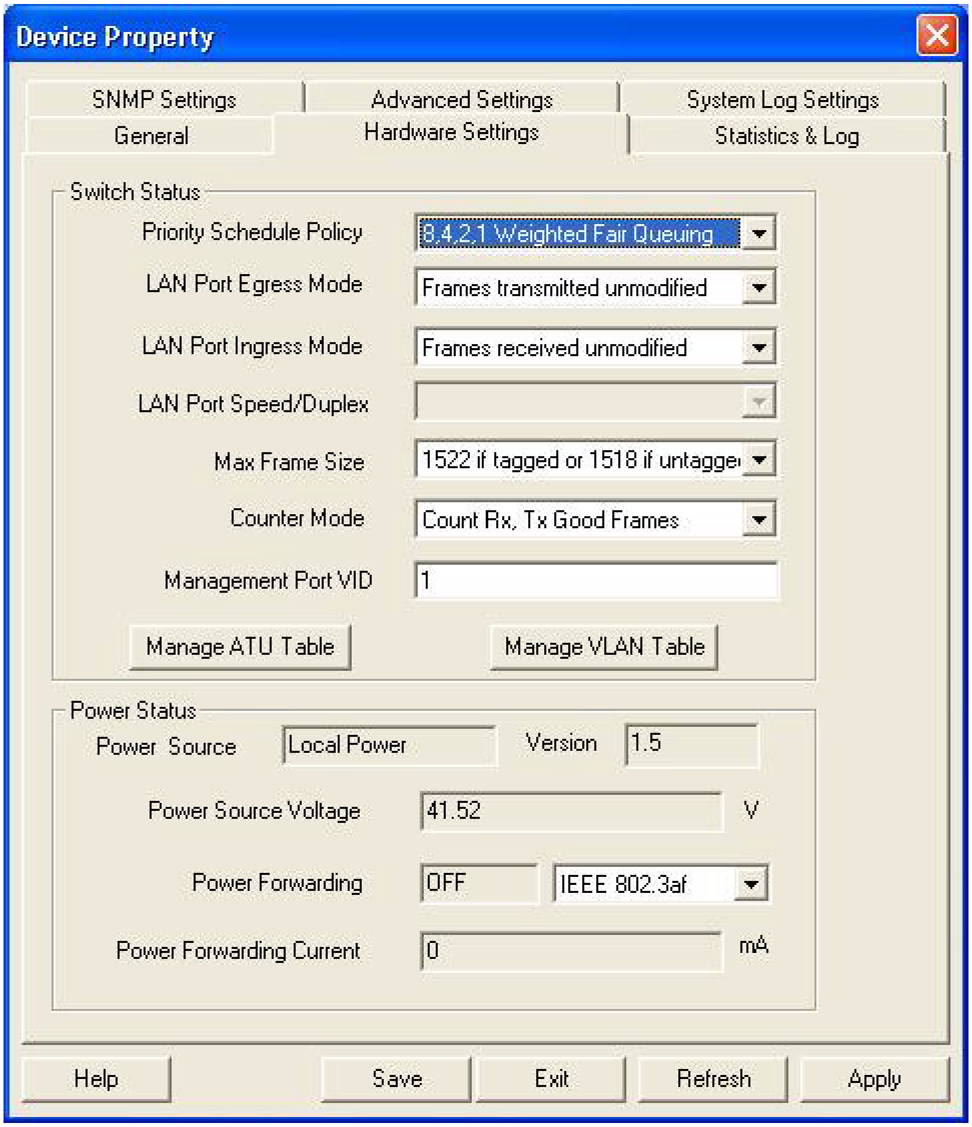
Click OK to save your changes or Cancel to discard them.

Product Information

6 Under the Product Information box, you can see the current firmware version of the IntelliJack, the Product Name, and the Serial Number.

Hardware Settings Tab

7 Click on the Hardware Settings tab to view status information about the switch.



Switch Status

Priority Schedule Policy: 8,4,2,1 Weighted Fair Queuing

LAN Port Egress Mode: Frames transmitted unmodified

LAN Port Ingress Mode: Frames received unmodified

LAN Port Speed/Duplex:

Max Frame Size: 1522 if tagged or 1518 if untagge

Counter Mode: Count Rx, Tx Good Frames

Management Port VID: 1

Power Status

Power Source: Local Power

Version: 1.5

Power Source Voltage: 41.52 V

Power Forwarding: OFF IEEE 802.3af

Power Forwarding Current: 0 mA

Several fields in this window can be edited, a few cannot. You can change the values of the fields with drop-down lists: Priority Schedule Policy, LAN Port Egress Mode, LAN Port Ingress Mode, LAN Port Speed/Duplex, Max Frame Size, Counter Mode, and Power Forwarding.

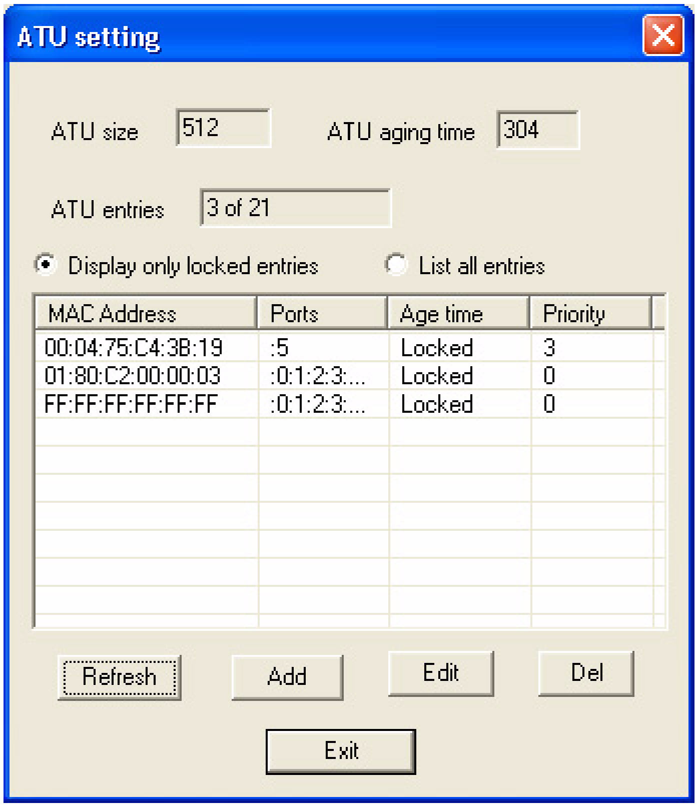
NOTE: The LAN Port Speed/Duplex field will be grayed out for the NJ240FX because you are unable to configure the speed and duplex of a fiber connection.

NOTE: For help determining the best configuration options for your system, see the Changing Device Configuration section.

8 Simply select the value you wish to change from the drop-down list of options.

NOTE: You can click Apply at any time to save the changes you have made. But be sure to click Apply after you have finished making all your changes.

9 Click the Manage ATU Table button to make changes to the NJ240FX's ATU table. The screen you see allows you to display all MAC addresses that have been plugged into that IntelliJack or just the ones that you have "locked down" to it. You can refresh the list, add MAC addresses to it, edit existing ones or delete entries in the ATU table.



ATU size: 512   ATU aging time: 304

ATU entries: 3 of 21

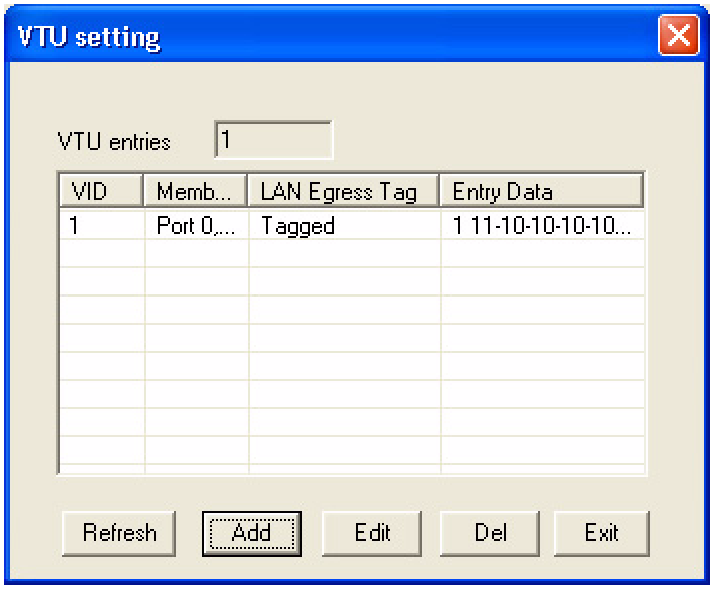
● Display only locked entries   ○ List all entries

MAC Address	Ports	Age time	Priority
00:04:75:C4:3B:19	:5	Locked	3
01:80:C2:00:00:03	:0:1:2:3:...	Locked	0
FF:FF:FF:FF:FF:FF	:0:1:2:3:...	Locked	0

The Address Translation Unit (ATU) performs MAC address searching, learning, and aging functions for all ports of the IntelliJack. By default, the ATU table allows a total of 512 entries and an aging time is 304 seconds for each entry. These settings (ATU, ATU aging time, and ATU entries) are fixed and not editable.

The IntelliJack lets you manage its ATU table. You may want to know which MAC addresses have been connected to a particular IntelliJack. You may want to associate a MAC address with selected ports, so the unselected ports will not receive frames from this MAC address. You may want to set a certain priority level to the frames associated with the MAC address. Finally, you may want to lock down a MAC address so that it is never dropped from the ATU table. This last operation is referred to as MAC address filtering and you can lock down up to 32 MAC addresses into the ATU. All of these configurations are handled through the Properties page, since an ATU table is related to a specific IntelliJack.

10 The IntelliJack also lets you manage its VLAN table. To access the VLAN table, click on the Manage VLAN Table button. The screen you see allows you to display all the VIDs that have been assigned to that IntelliJack.



VTU entries 1

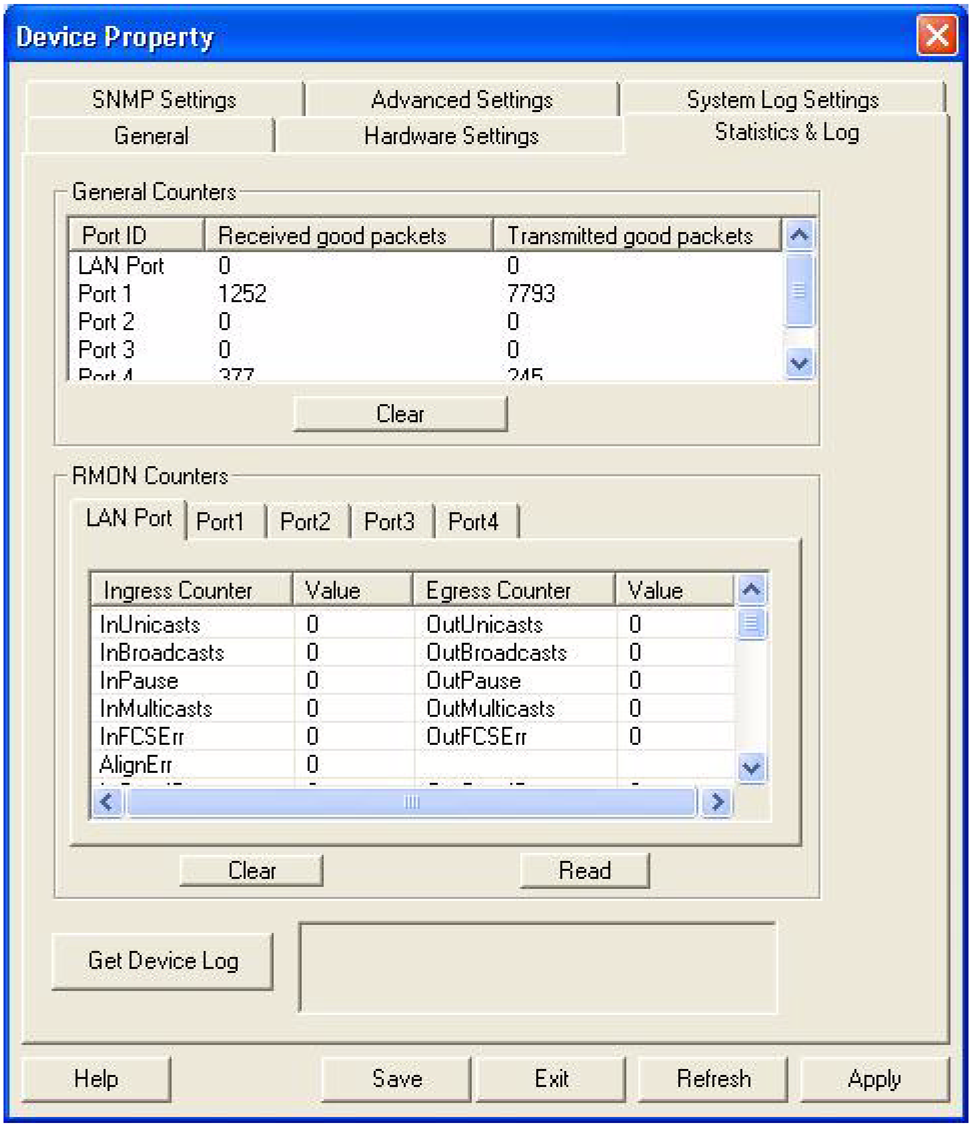
VID	Memb...	LAN Egress Tag	Entry Data
1	Port 0,...	Tagged	1 11-10-10-10-10...

You can refresh the list of VIDs or add to it. You can edit existing VLAN settings, tagging schemes and port associations by clicking the Edit button.

The VLAN table is a record of the VLAN settings which have been configured for a particular IntelliJack. You may want to know which ports have been assigned a VLAN ID (VID), whether packets are tagged or untagged and whether the ports are associated with one another. All of these configurations are handled through the Properties page, since a VLAN table is related to a specific IntelliJack.

Statistics & Log Tab

11 Click on the Statistics & Log tab.



Port ID	Received good packets	Transmitted good packets
LAN Port	0	0
Port 1	1252	7793
Port 2	0	0
Port 3	0	0
Port 4	377	245

Ingress Counter	Value	Egress Counter	Value
InUnicasts	0	OutUnicasts	0
InBroadcasts	0	OutBroadcasts	0
InPause	0	OutPause	0
InMulticasts	0	OutMulticasts	0
InFCSErr	0	OutFCSErr	0
AlignErr	0		

From this view you can see statistics about the number of good or bad packets each port has received and transmitted, based on how you have configured the Counter Mode setting.

The bottom half of the window shows Remote MONitoring (RMON) counters for the LAN port and each of the four PAN ports on the IntelliJack. RMON counters are extensions to the Simple Network Management Protocol (SNMP) that provide comprehensive network monitoring capabilities (see appendix C for detailed information).

12 To load the counter information from the IntelliJack, click the Read button.

This window lets you monitor the traffic through your network by displaying statistics for many types of packets. The left side shows Ingress counters for packets coming into the IntelliJack's port. The right side shows Egress counters for packets leaving the port.

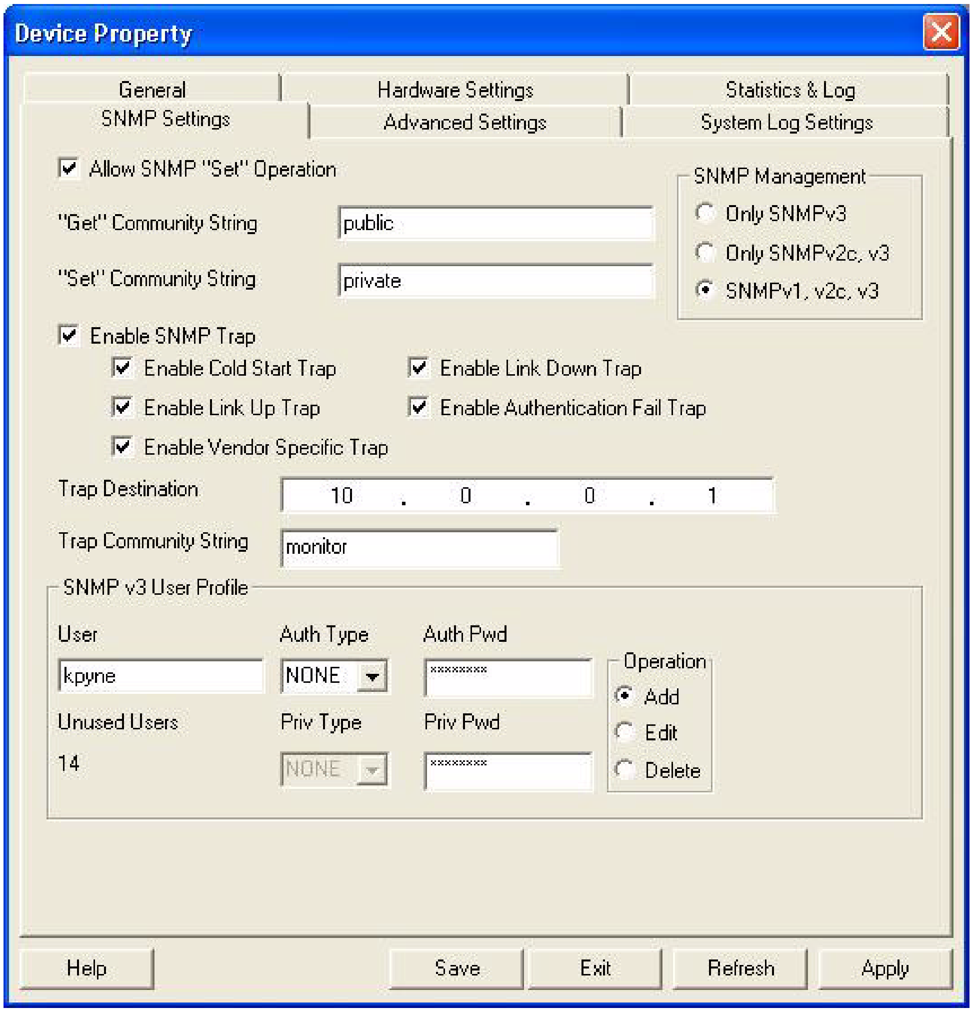
You can reset all counters to zero by clicking Clear.

To save device data to a log file, click Get Device Log. This will prompt you for a filename and location to save the log file.

NOTE: The device log records information regarding watch-dog timer errors or other abnormalities. If, for example, the IntelliJack has unexpectedly rebooted, the event will be recorded in the device log. 3Com Customer Support can use information in the device log to help with troubleshooting. We recommend that you do not attempt to use this log.

SNMP Settings Tab

13 Click on the SNMP Settings tab to see the following window:



☑ Allow SNMP "Set" Operation

"Get" Community String public

"Set" Community String private

SNMP Management
○ Only SNMPv3
○ Only SNMPv2c, v3
● SNMPv1, v2c, v3

☑ Enable SNMP Trap
☑ Enable Cold Start Trap ☑ Enable Link Down Trap
☑ Enable Link Up Trap ☑ Enable Authentication Fail Trap
☑ Enable Vendor Specific Trap

Trap Destination 10 . 0 . 0 . 1

Trap Community String monitor

SNMP v3 User Profile

User	Auth Type	Auth Pwd
kpyne	NONE	********
Unused Users	**Priv Type**	**Priv Pwd**
14	NONE	********

Operation
● Add
○ Edit
○ Delete

14 You can view and edit the SNMP Community String settings and Trap settings for this particular NJ240FX.

15 You can select whether you want to use only SNMP v3 or v2c and v1 as well.

16 To edit a Trap Destination, enter the IP address of your SNMP management console in the field. This eliminates the need to build a Trap Destination Table via a Management Information Database (MIB) browser.

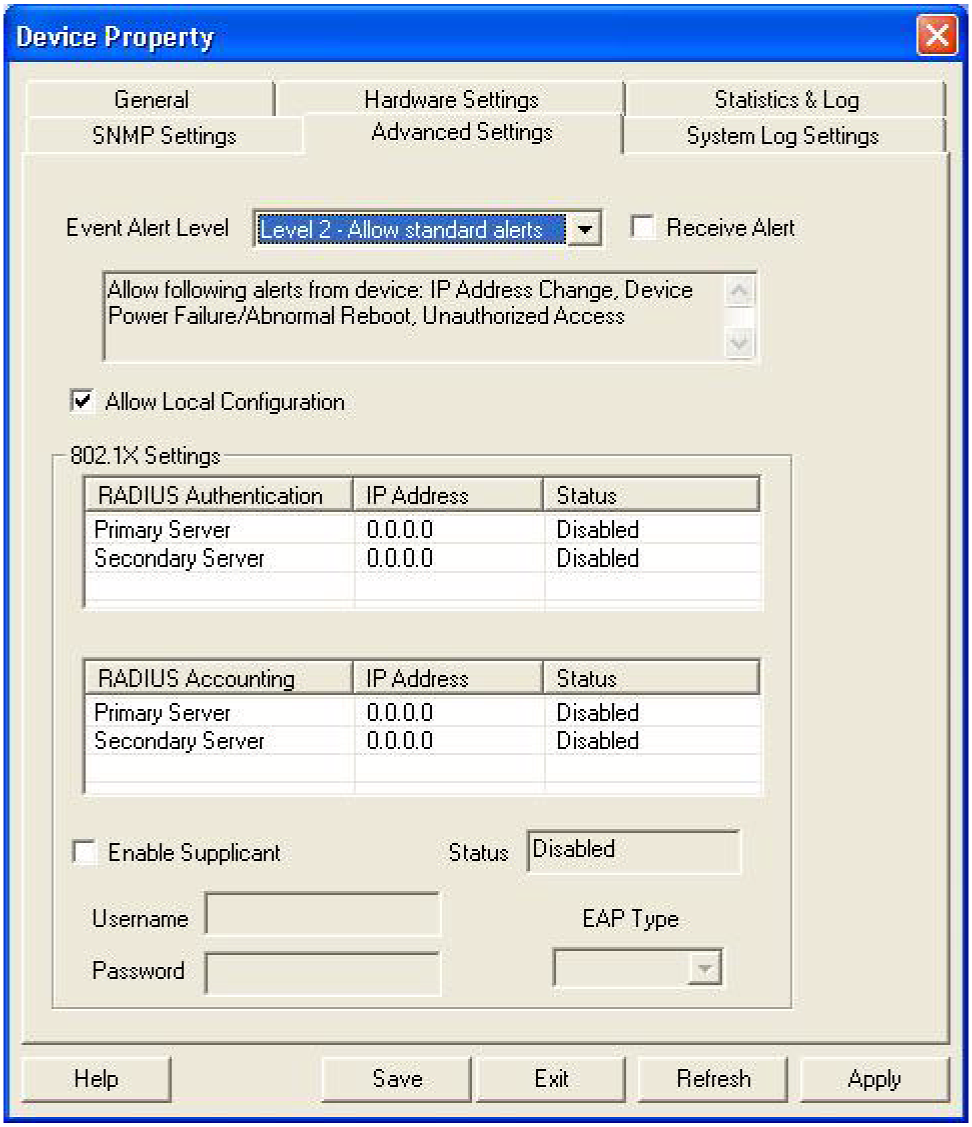
In order for an SNMP Management Tool to communicate with an NJ240FX in SNMPv3 mode, you will first need to create an SNMPv3 Profile on the NJ240FX. Please note that, as with passwords, these stored profiles will not be displayed, so it is advised that you make note of the details of your saved profiles. You can store up to 14 SNMPv3 User Profiles on your NJ240FX, and you can add, modify or delete a profile.

To create a profile, enter the desired User Name, with the appropriate Authentication and Privacy Protocol, and passwords if required. These protocols and passwords are not required, but must match the corresponding settings on the SNMP Management Tool you wish to use for communication with the IntelliJack. Once you have selected the appropriate options for the profile, you can either save it as a new profile by selecting Apply. You can also modify the settings of a profile previously stored with the specified User name, by selecting the Edit operation, and then selecting Apply.

You can use the Delete option to create space in the database, by deleting previously stored profiles. To do this, you enter the name of the profile and select Delete Operation, followed by Apply. To delete a profile, you only need to enter the profile name, you do not need to enter any other parameters.

Advanced Settings Tab

17 Click on the Advanced Settings tab to see the following window:



Event Alert Level: Level 2 - Allow standard alerts ☐ Receive Alert

Allow following alerts from device: IP Address Change, Device Power Failure/Abnormal Reboot, Unauthorized Access

☑ Allow Local Configuration

802.1X Settings

RADIUS Authentication	IP Address	Status
Primary Server	0.0.0.0	Disabled
Secondary Server	0.0.0.0	Disabled

RADIUS Accounting	IP Address	Status
Primary Server	0.0.0.0	Disabled
Secondary Server	0.0.0.0	Disabled

☐ Enable Supplicant Status: Disabled

Username:

Password:

EAP Type:

18 You can view the Event Alert Level and 802.1X Settings configured for this particular NJ240FX. 802.1X is a security protocol for LANs that relies on the Extensible Authentication Protocol (EAP) to pass messages to RADIUS authentication servers.

NOTE: For help configuring SNMP and 802.1X settings for your system, see the Changing Device Configuration section.

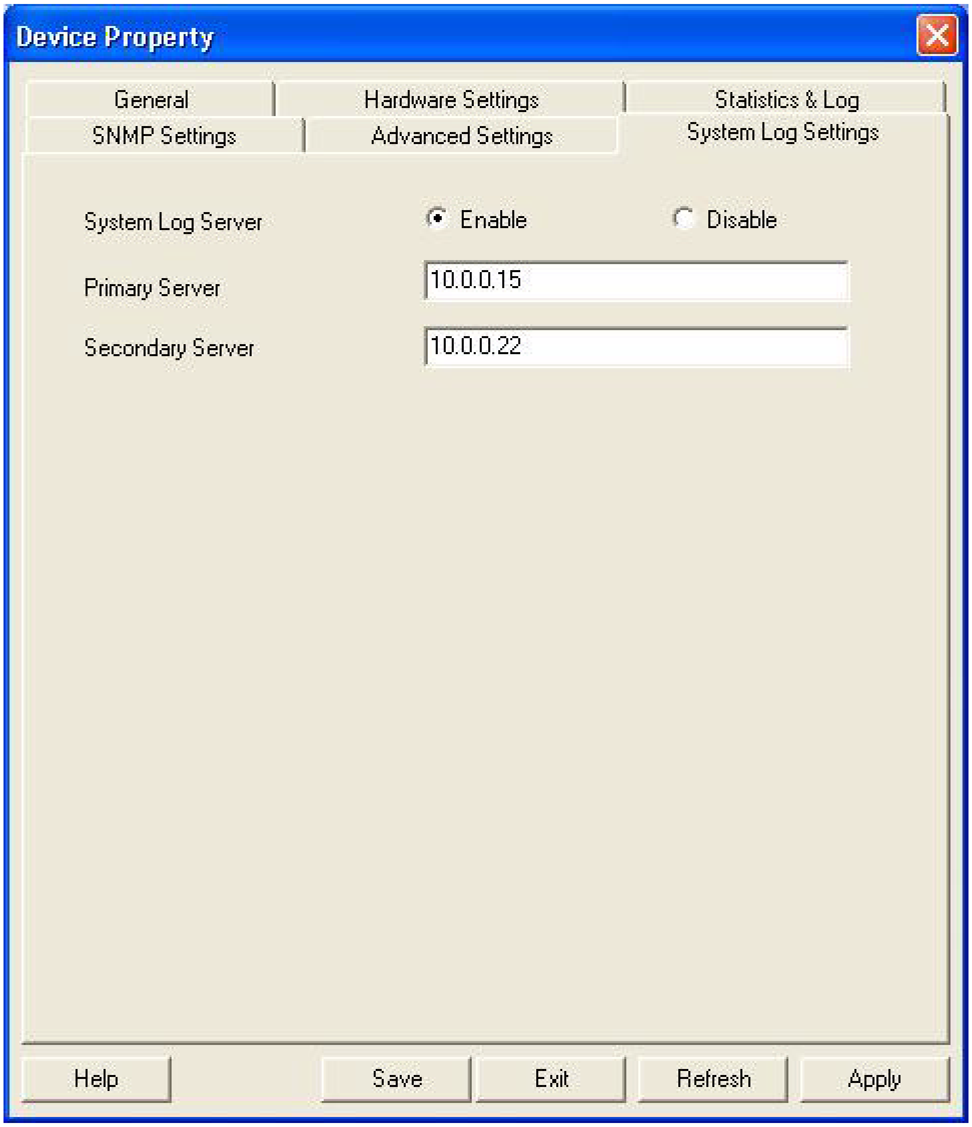
Different Alert Levels notify you of specific events happening with the IntelliJack. Each level above 0 provides different types of event alerts as described below:

Alert Level	**Notifying Event**
Level 0: Disable all alert messages	None
Level 1: Allow critical alerts	Device Power Failure/Reboot
	Abnormal Reboot
	IP Address Change
Level 2: Allow standard alerts	Device Power Failure/Reboot
	Abnormal Reboot
	IP Address Change
	Unauthorized Access
Level 3: Allow all alerts	Device Power Failure/Reboot
	Abnormal Reboot
	IP Address Change
	Unauthorized Access
	Normal Reboot
	NBX phone plugged in
	NBX phone removed

Next to the Event Alert Level field is a box labeled Receive Alert. If you are running the Central Configuration Manager on more than one machine in your organization, the Receive Alert box will only be active for the last CCM that discovered the device. The box will be grayed out on the CCMs of all other machines.

System Log Settings Tab

19 Click on the System Log Settings tab to display the following window:



System Log Server ● Enable ○ Disable

Primary Server 10.0.0.15

Secondary Server 10.0.0.22

20 If the CCM is operating in IPv6 mode, then the screen will present an IPv6 formatted address field. The NJ240FX will store only one set of System Log server addresses, either an IPv4 set or an IPv6 set. The last type of address that was written to the unit is what will be stored.

NOTE: You are able to see the IPv4 type addresses only when the CCM is operating in IPv4 mode. Similarly, the IPv6 addresses can only be seen when the CCM is operating in IPv6 mode.

21 Click Apply to save any changes you make, and a configuration summary dialog box will appear. Verify the information and click OK.

22 Click Exit to close the Device Property window.

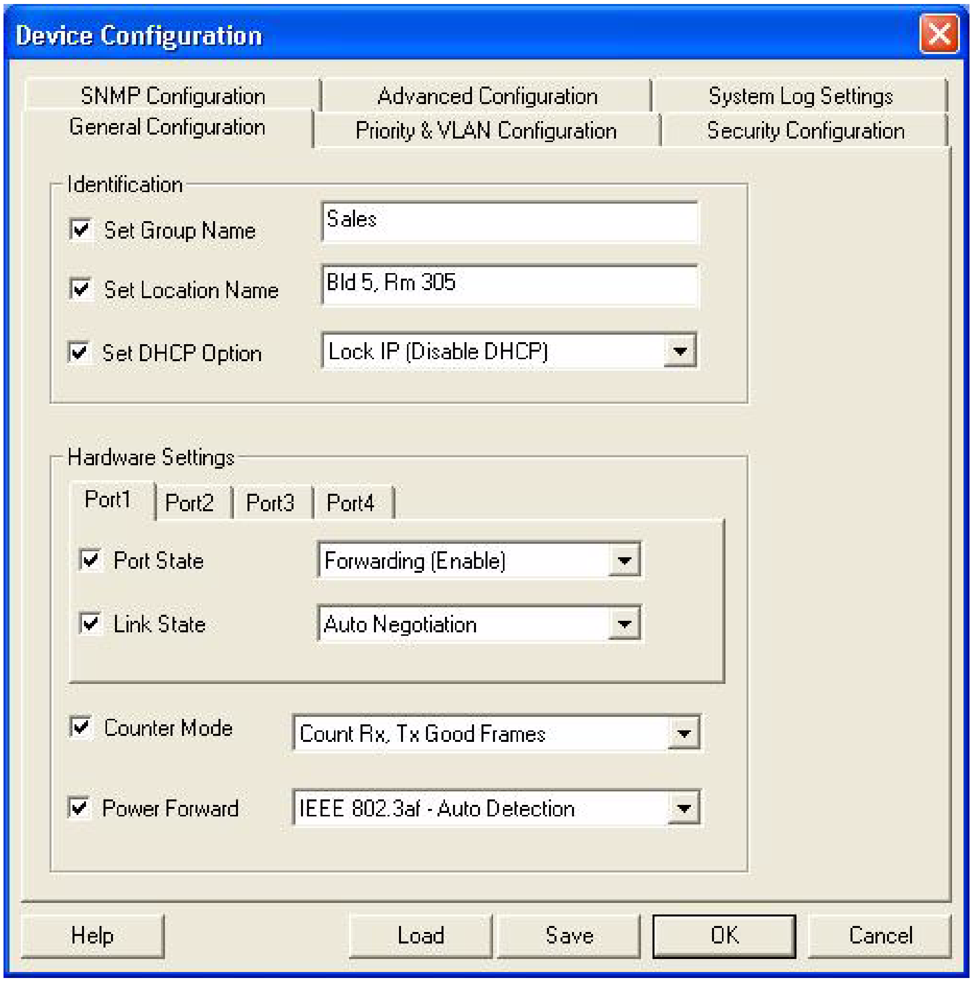
Changing Device Configuration

Many of the properties that you can view from the Device Property windows can be changed from the Device Configuration window. Here's how to use this feature:

1 Select one or more IntelliJacks from the devices list.

NOTE: It is possible to configure multiple IntelliJacks at the same time.

2 Select Configuration from the Devices menu or the toolbar, or right click on a device and select Configuration from the pop-up menu.



☑ Set Group Name: Sales

☑ Set Location Name: Bld 5, Rm 305

☑ Set DHCP Option: Lock IP (Disable DHCP)

☑ Port State: Forwarding (Enable)

☑ Link State: Auto Negotiation

☑ Counter Mode: Count Rx, Tx Good Frames

☑ Power Forward: IEEE 802.3af - Auto Detection

NOTE: To make configuration changes to a IntelliJack from the Central Configuration Manager, the NJ240FX must be part of the device database. See the section on Discovering NJ240FX Devices on Your Network for information about including new devices in the database.

You must also be able to communicate with the device from your workstation in order to configure it. If you can't communicate with the device at this time, you will receive an error message.

This window has six tabs across the top--General Configuration, Priority & VLAN Configuration, Security Configuration, SNMP Configuration, Advanced Configuration, and System Log Settings. Check the box next to any setting you want to change from within these five areas.

The bottom of the window has buttons labeled Load and Save. The Save operation lets you save an IntelliJack configuration profile. You can then use the Load button to apply the configuration profile to one or more IntelliJacks.

If you wanted to send a single configuration to one or more IntelliJacks, you would make the configuration changes in this window and click Save. Then you could select a list of IntelliJacks from the main Configuration Manager window and click Load, choose the file, and click OK. This would send the configuration to all of the IntelliJacks that you selected.

General Configuration

3 Make sure the General Configuration tab is selected.

Identification Settings

4 To change or set the Group Name, check the box next to that field. You can set a Group Name to anything you want, up to 128 characters.

5 Change or set the Location Name by checking the box next to that field and entering up to 128 characters.

6 Configure the DHCP setting to the desired state.

Hardware Settings

7 Change the Port state of any of the IntelliJack's ports by selecting the Port tab and checking the box next to the characteristic you want to modify. Then select a value from the drop list.

Forwarding (Enable) is the default setting for the Port State. The other option is Blocking (Disable). Forwarding (Enable) allows traffic to pass through the individual ports. By setting the Port State to Blocking (Disable), you can block any traffic from passing.

You may want to set the Port State to Blocking (Disable) when you want to restrict access to your LAN at the location where the IntelliJack is installed. This might be an appropriate option in a public use area such as a lobby, conference room, or classroom. Using the Calendar function, you can schedule the Port State for Forwarding (Enable) or Blocking (Disable) at specified times and dates.

8 To change the Link State setting, click the box and select an option from the drop list.

Auto Negotiation is the default setting and the de facto setting for most network equipment because it is the most flexible option. It automatically configures a networked device based on the speed and duplex of the upstream device it is plugged into. This is especially useful when you do not know the configuration (speed/duplex) of all devices connected to the network.

Be advised, however, that not all network interface cards (NICs) use the standard auto-negotiation algorithm, and it may be necessary to force the speed and duplex of the PAN port to match the speed and duplex of the attached NIC.

9 The next two settings apply not to a specific port, but to the IntelliJack as a whole. By default, the Central Configuration Manager will display a count of good transmissions in the Property window because it is unlikely that the IntelliJack will drop any Ethernet Packets.

If you believe that the IntelliJack is dropping Ethernet packets, you may want to configure the Counter Mode to count received errors (Rx Errors) and transmission collisions (Tx Collisions). This will give you a good sense of whether packets are actually being dropped.

10 To change the Power Forwarding setting, click the box and select an option from the drop list.

IEEE 802.3af is the recognized standard for Power over Ethernet (PoE) and the default setting. More and more network devices that are POE capable are adhering to this standard.

The IntelliJack's Power over Ethernet capability also lets you forward power to a standards-compliant device plugged into Port 1 of the NJ240FX. The default setting of the NJ240FX is auto-detect. We recommend that you keep this setting as part of your configuration to ensure that power will only be forwarded to devices capable of receiving it.

The IEEE802.3af standard requires a powered device to present a signature to the power sourcing equipment. The power sourcing equipment will check this signature and will only apply power to the line when it sees the correct signature.

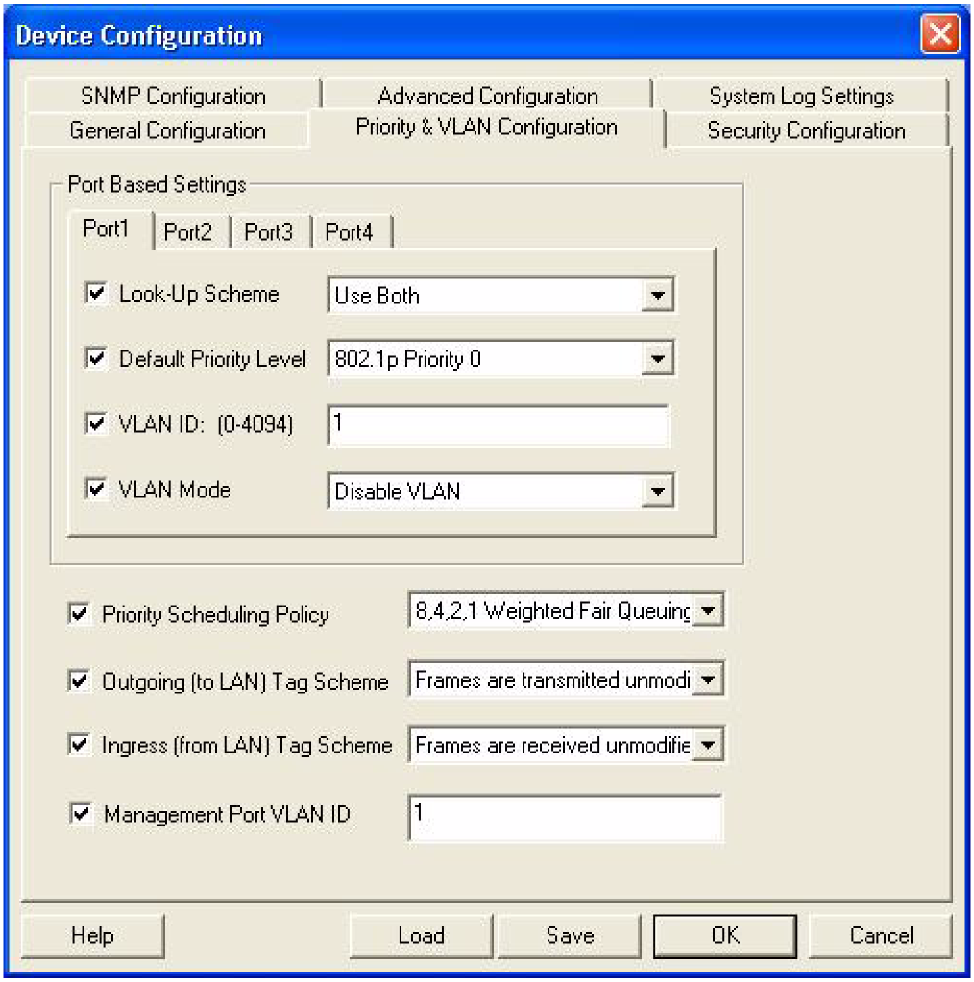
If you want to ensure that power will not be forwarded at all, however, you could select Force power OFF to any device connected to Port 1.

Select Force power ON if you always want to apply power to any device plugged into Port 1. This option would let you power devices plugged into Port 1 that do not have the signature required by IEEE802.3af-compliant power sourcing equipment.

⚠ *WARNING: By forcing power ON, you may damage equipment that is inadvertently plugged into Port 1, such as a device that is not designed to handle 48V.*

Priority & VLAN Configuration

11 Click the Priority & VLAN Configuration tab along the top of the Device Configuration window to view these settings:



☑ Look-Up Scheme: Use Both

☑ Default Priority Level: 802.1p Priority 0

☑ VLAN ID: (0-4094): 1

☑ VLAN Mode: Disable VLAN

☑ Priority Scheduling Policy: 8,4,2,1 Weighted Fair Queuing

☑ Outgoing (to LAN) Tag Scheme: Frames are transmitted unmodi

☑ Ingress (from LAN) Tag Scheme: Frames are received unmodifie

☑ Management Port VLAN ID: 1

Port Based Settings

12 To change the Port Based Settings, first select the Port's tab you want to make the changes to.

13 To change the Look-up Scheme from the default of Use Both, click the box and select an option from the drop list.

Both the Use IEEE 802.1p Traffic Class Field and Use IP TOS, DiffServ fields look-up schemes examine Ethernet packets to determine their prioritization. The former looks at one portion of the packet, effectively making it a Layer 2 tool. The latter looks at a different part of the packet, effectively making it a Layer 3 tool.

The Look-up Scheme is part of the prioritization of Ethernet packets. Prioritization determines which packets clear the buffer first. If you didn't care about the prioritization of packets, you would choose None. If you wanted to prioritize voice packets on Port 1, for example, you would choose another option.

14 The default setting for the Default Priority Level is 802.1p Priority 0 or 1. You can change this setting to Priority 2 or 3, Priority 4 or 5, or Priority 6 or 7.

The IntelliJack has four traffic queues with two priorities per queue. The lowest numbers (0 and 1) have the lowest priority. The default priority traffic is called "Best Effort" and serves as a baseline priority for all standard Ethernet traffic.

If you want to assign a higher priority to traffic on a particular port (voice traffic, for instance), you can do so. The higher the number the higher the priority (Priority 6 or 7 is the highest). The IntelliJack will send higher priority traffic ahead of lower priority traffic to improve the quality and throughput from that particular port.

15 You can associate any of the four ports with any other ports on this IntelliJack to form a VLAN group. You can specify the tag schemes for the VLAN you create.

You can set the VLAN ID (VID) field to any number between 0 and 4094. The default setting is 1, which is the common practice. If all equipment is set at VID 1, you can communicate across all ports.

Since VLANs are used to separate network traffic to make it more manageable and secure, you would change the VID of the individual ports to meet the needs of your network.

In a classroom setting, for example, you may want the teacher to be on a separate VLAN than the students. You could assign VID 10 to Port 1 of the IntelliJack for the teacher and VID 20 to the other ports.

NOTE: The VID of a port must match the upstream switch VLAN assignments. If the IntelliJack's VID assignments do not match the upstream switch and "add a VLAN tag" is set in the Egress rule, then the traffic that passes from the IntelliJack to the LAN will be dropped at the upstream switch port.

16 To change the VLAN mode setting, click the box and select an option from the drop list. You can choose to Disable the VLAN. In this mode, ingress frames are forwarded through default switching rules.

You can also choose Enable unrestricted VLAN. In this mode, the port is associated with the current VLAN ID you have set. Frames ingressed into this port without a VLAN tag or with the same VLAN ID are forwarded within the VLAN. Frames with a different VLAN ID are forwarded according to default switching rules (i.e., based on the destination MAC address). Management packets are able to pass through this port on this setting.

Finally, you can choose Enable restricted VLAN. In this mode, the port is associated with the current VLAN ID you have set. All frames ingressed into this port are forwarded within the same VLAN, and management packets are blocked on this port.

Other Priority & VLAN Settings

17 Click the box and select from the drop list to change the Priority Schedule Policy. The default setting is 8,4,2,1 weighted fair queuing scheme.

8,4,2,1 refers to the number of bytes removed from the IntelliJack's buffer. 8 bytes of the highest priority traffic are removed from the buffer first, then 4 bytes from the second most important, 2 bytes from the third, etc. This is the most common priority scheme because it ensures that important traffic is prioritized but still allows traffic flow for all ports.

In a strict priority scheme (the setting's other option), all highest priority traffic will be removed from the buffer. After it is removed, the next priority traffic type would be removed, and so on. This ensures that the most important or time critical data is passed first, but it could potentially slow traffic from other ports.

18 You can change the Outgoing (to LAN) tag scheme for the IntelliJack. By default, frames are transmitted unmodified. This setting ensures that you will not risk losing communication with upstream switches due to misaligned VLAN IDs (VIDs).

If you want to configure traffic from a port on the IntelliJack, you can add a tag to the frame. This lets you separate traffic into different VLANs.

19 You can also change the Incoming (from LAN) tag scheme. By default, all frames are received unmodified. By receiving frames unmodified, you will not risk losing communication between upstream switches and the devices connected to the IntelliJack due to misaligned VIDs.

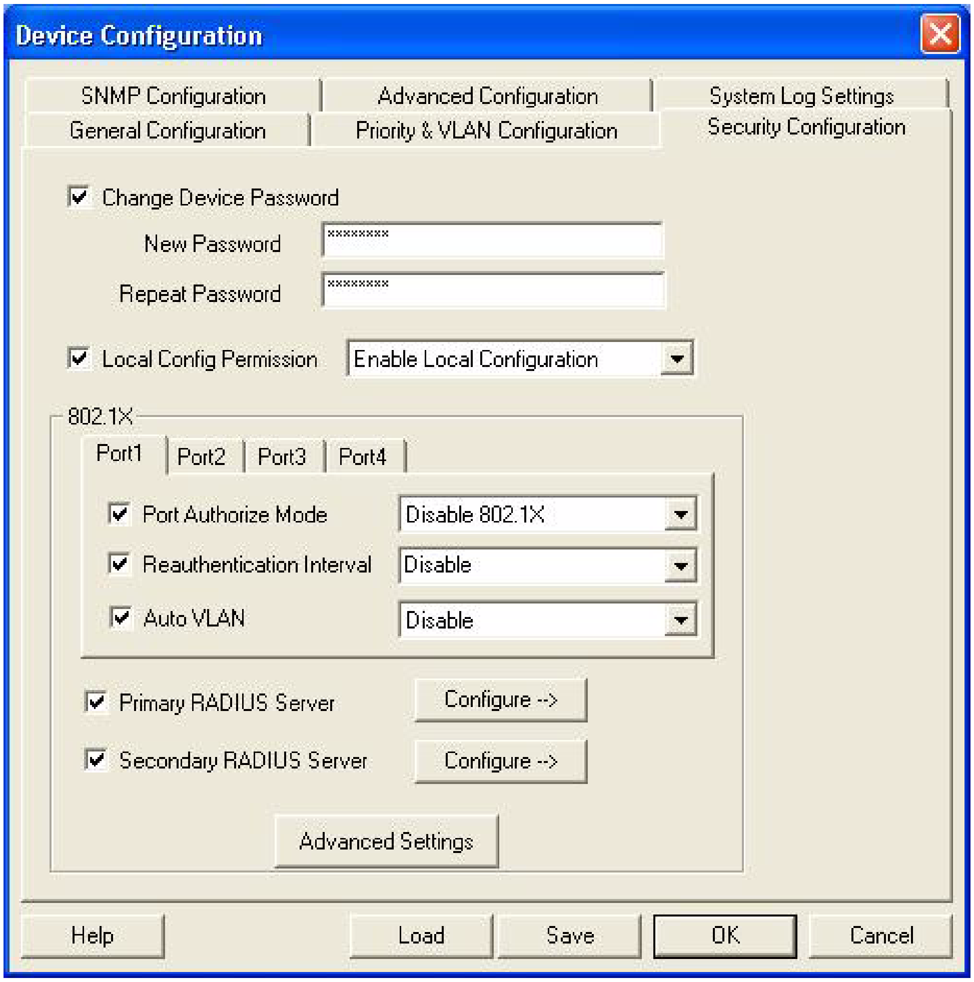
If an upstream switch is sending a tagged packet but the device connected to one of the IntelliJack ports does not need the tag information, you can remove the tag.

20 It is common practice to set the VLAN ID (VID) of the management port to VID 1, and this is the default value.

The management port is the port through which all commands to and from the IntelliJack are communicated. You may want to separate management traffic from other network traffic by assigning the Management Port of the IntelliJack to a different VID. You should make sure that the VID for the management port of the IntelliJack is the same as the VID for management ports of upstream devices.

Security Configuration

21 Select the Security Configuration tab to set the security options of the IntelliJack.



☑ Change Device Password

New Password ********

Repeat Password ********

☑ Local Config Permission: Enable Local Configuration

☑ Port Authorize Mode: Disable 802.1X

☑ Reauthentication Interval: Disable

☑ Auto VLAN: Disable

☑ Primary RADIUS Server

☑ Secondary RADIUS Server

Password

22 You can change the device password (the default password is “**password**”), and either enable or disable local configuration.

NOTE: You should change the password to ensure that no one else can re-configure your system. Make sure you remember the new password you set. ***If you forget the new password, you will not be able to perform any other configuration tasks unless you send the device back to 3Com****.*

802.1X

23 To change 802.1X settings for a specific port, select that port’s tab and make the changes by clicking the box and selecting an option from the drop list. The default setting for Port Authorize Mode is Disable 802.1X.

802.1X is a standard for port-based network access control. Typical 802.1X implementations in an Ethernet switch usually include the authenticator as well as RADIUS clients. The authenticator controls port access for the network client devices connected to the switch.

When the option is set to Disable 802.1X, all packets are processed as a normal Ethernet switch; no 802.1X control applies.

With Standard 802.1X selected, control is enabled. Once the device is authorized, the port it connects to is in the authorized state and all packets entering the port are allowed to pass through.

When the Secure 802.1X option is selected, control is enabled. In addition, the IntelliJack will check its ATU to determine if packets entering the port should be forwarded. If the device is authorized, the IntelliJack will put the MAC address of the device in the ATU and allow its packets to pass through. The NJ240FX will block all other packets that don't have the correct MAC address specified in the ATU.

You can select the MAC address filter option if a client device does not support 802.1X and wishes to connect to the network through the IntelliJack (e.g., a network printer). In this case, you can manually add the device's MAC address associated to the port in the ATU, and packets from the network to this port will be blocked unless their MAC addresses are listed in the ATU.

802.1X with IP Phone is a special case of 802.1X secure mode. In this mode, when a 3Com IP phone is connected to the IntelliJack, the phone's MAC address will be locked into the ATU automatically. Therefore, packets sent from the phone can pass through by default without further authentication. If 802.1X control is not required, an IP phone can connect to a port with 802.1X disabled and voice traffic will pass through without authentication.

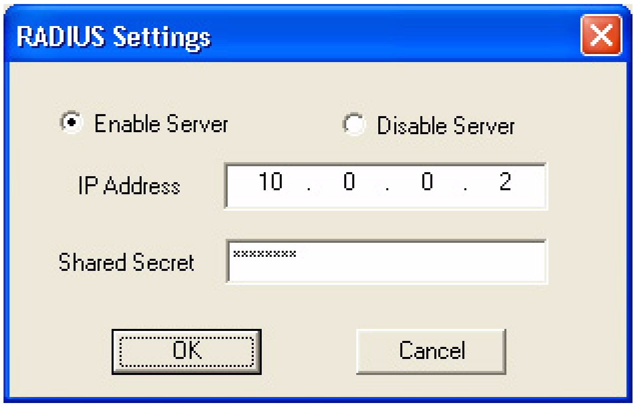
24 When 802.1X security is applied, authentication is required and reauthentication is required at specific intervals. The IntelliJack disables reauthentication by default.

When reauthentication is enabled, the default period is 3600 seconds. You could select an interval ranging from 10 to 65535 seconds. If you prefer that a supplicant device authenticates itself on a frequent basis, you would choose a small reauthentication interval. Likewise, you would increase the interval or disable the function if you were not concerned about regular authentication of the devices on your network.

25 When 802.1x is enabled in the NJ240FX, you have the ability to automatically assign a port to a specific VID when a user connects and authenticates via that port. This option depends on a RADIUS server being configured with user profiles, including VID assignments. When this feature is enabled, the RADIUS server effectively sends the user information to the NJ240FX, which is acting as its client.

NOTE: When a port has been assigned a VLAN ID automatically by the RADIUS server, you will not be able to make any changes to the port's VLAN ID, its VLAN mode, or any entries in the VLAN table to which this port is associated.

26 To use 802.1X, you must select a RADIUS server to act as authenticator to devices connected to the NJ240FX. To select a Primary or Secondary RADIUS server, click the box and the Configure button. This will open a separate window.



RADIUS Settings

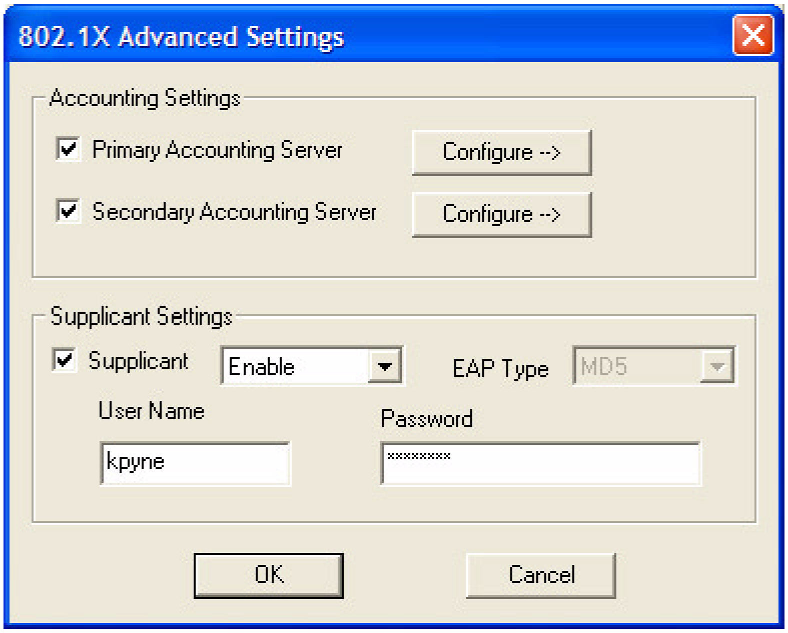
● Enable Server ○ Disable Server

IP Address 10 . 0 . 0 . 2

Shared Secret ********

In this box you can Enable or Disable the server, enter the server's IP address and the Shared Secret.

27 To set advanced 802.1X security settings, click the Advanced Settings button in the Security Configuration window.



802.1X Advanced Settings

Accounting Settings

☑ Primary Accounting Server

☑ Secondary Accounting Server

Supplicant Settings

☑ Supplicant Enable EAP Type MD5

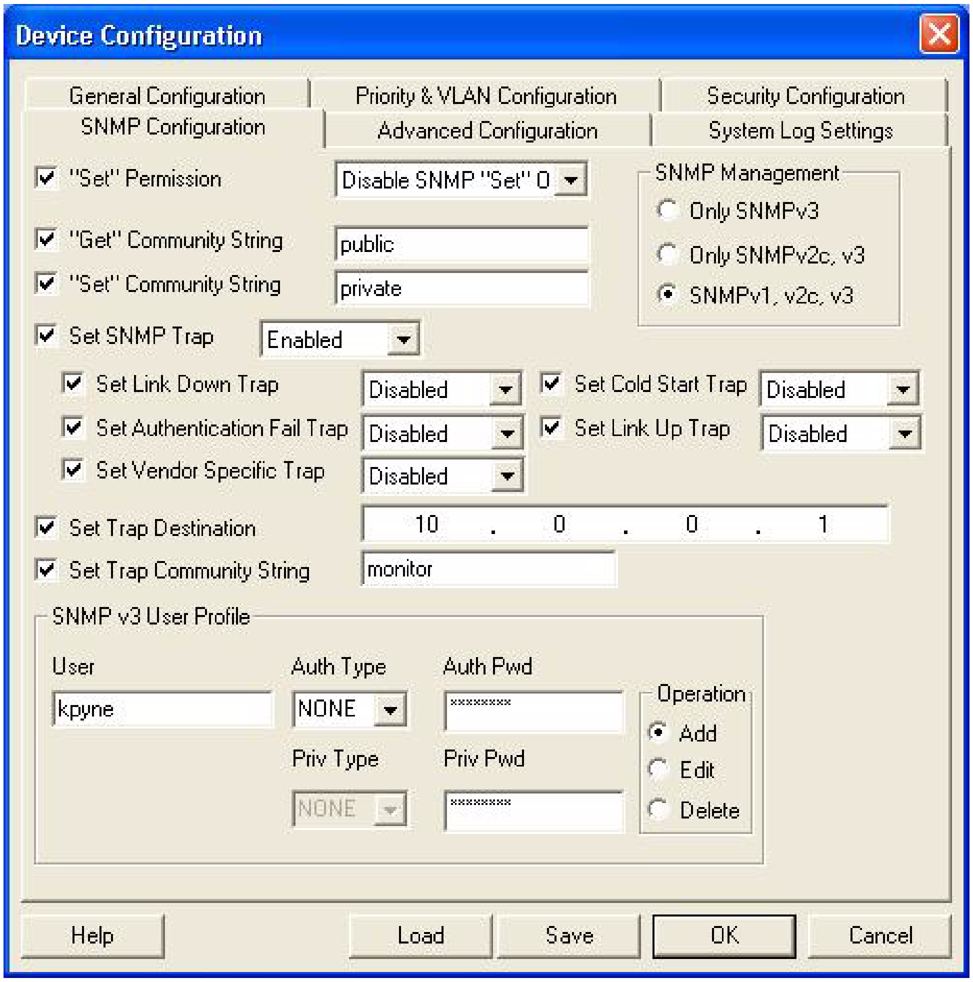
User Name kpyne

Password ********

Primary and secondary accounting servers are similar to the settings for RADIUS servers. The supplicant settings let you configure the IntelliJack as a supplicant to an 802.1X-enabled upstream switch. To enable this option, select the box next to Supplicant. When you do, the other fields on the screen will become active. You can enter a Supplicant User Name and Password as well as an EAP Type setting. MD5 is the only EAP type that the IntelliJack currently supports.

SNMP Configuration

28 Click the SNMP Configuration tab to change the SNMP settings of the NJ240FX.



Device Configuration

☑ "Set" Permission: Disable SNMP "Set" O

☑ "Get" Community String: public

☑ "Set" Community String: private

SNMP Management: ○ Only SNMPv3 ○ Only SNMPv2c, v3 ● SNMPv1, v2c, v3

☑ Set SNMP Trap: Enabled

☑ Set Link Down Trap: Disabled

☑ Set Cold Start Trap: Disabled

☑ Set Authentication Fail Trap: Disabled

☑ Set Link Up Trap: Disabled

☑ Set Vendor Specific Trap: Disabled

☑ Set Trap Destination: 10 . 0 . 0 . 1

☑ Set Trap Community String: monitor

SNMP v3 User Profile

User: kpyne

Auth Type: NONE

Auth Pwd: ********

Priv Type: NONE

Priv Pwd: ********

Operation: ● Add ○ Edit ○ Delete

29 Select the desired level of SNMP Management. Depending on the selected level of management, you will need to configure other SNMP Parameters, in order to ensure communication between the IntelliJack and the SNMP Management Tool.

30 You can either Enable or Disable the “Set” operation of the IntelliJack.

31 Configure the “Get” and “Set” Community Strings for SNMP management operations.

32 Enable or Disable SNMP Trap with the Set SNMP Trap setting. Once enabled, you have the ability to configure the remaining trap settings.

SNMP provides the ability to send traps (notifications) to a trap destination, such as an SNMP server, when one or more conditions have been met. Traps are network packets that contain data relating to a component of the system sending the trap. When the condition for the trap has been met, the SNMP agent forms an SNMP packet and sends it to the administration application.

- A Cold Start Trap signals the administration application when the IntelliJack does a Cold Start.
- A Link Down Trap signals when the SNMP agent on the IntelliJack has gone to “down” state and is not reachable.

- The Link Up Trap signals when then SNMP agent has gone to the "up" state and is now reachable.
- An Auth Fail Trap indicates a wrong Community name in the SNMP transmission.
- Vendor Specific Traps indicate 802.1X User Login, 802.1X User Logout, and 802.1X Login Failure when the IntelliJack is configured for 802.1X.

33 You can Set Trap Destination by entering the IP address of your SNMP management console. This eliminates the need to build a Trap Destination Table via a Management Information Database (MIB) browser.

34 Set the Trap Community String in the appropriate field of this window.

35 The "Get" Community String allows an SNMP Management Tool to read from an IntelliJack configured for SNMPv1. In order to do so, you must configure this string to be the same on both the SNMP Management Tool and the IntelliJack.

Similarly, the "Put" command allows a SNMP Management Tool to write to the IntelliJack using SNMPv1. To do so, you must configure the IntelliJack "Put" Community String to correspond with the one on the SNMP Management Tool".

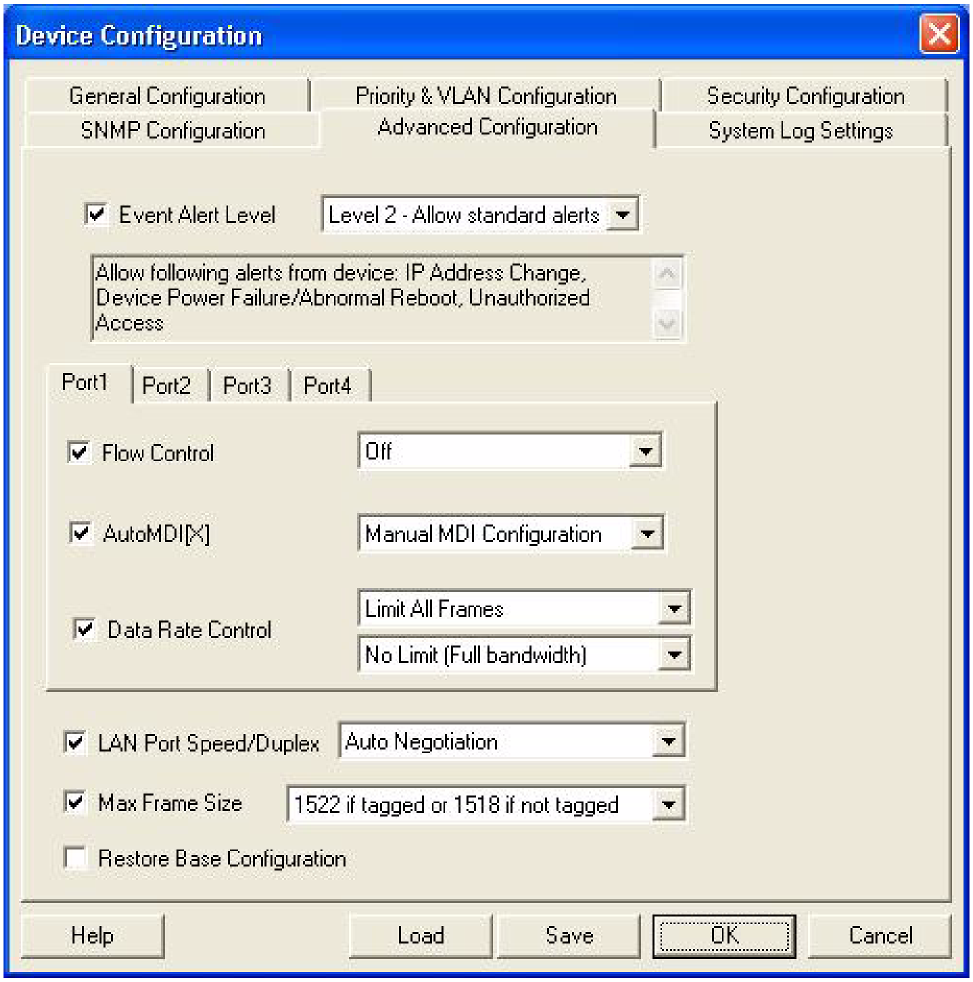
36 In order for an SNMP Management Tool to communicate with an NJ240FX in SNMPv3 mode, you will first need to create an SNMPv3 Profile on the NJ240FX. Please note that, as with passwords, these stored profiles will not be displayed, so it is advised that you make note of the details of your saved profiles. You can store up to 14 SNMPv3 User Profiles on your NJ240FX, and you can add, modify or delete a profile.

To create a profile, enter the desired User Name, with the appropriate Authentication and Privacy Protocol, and passwords if required. These protocols and passwords are not required, but must match the corresponding settings on the SNMP Management Tool you wish to use for communication with the IntelliJack. Once you have selected the appropriate options for the profile, you can either save it as a new profile by selecting Apply. You can also modify the settings of a profile previously stored with the specified User name, by selecting the Edit operation, and then selecting Apply.

You can use the Delete option to create space in the database, by deleting previously stored profiles. To do this, you enter the name of the profile and select Delete Operation, followed by Apply. To delete a profile, you only need to enter the profile name, you do not need to enter any other parameters.

Advanced Configuration

37 Select the Advanced Configuration tab for this window:



☑ Event Alert Level: Level 2 - Allow standard alerts

Allow following alerts from device: IP Address Change, Device Power Failure/Abnormal Reboot, Unauthorized Access

☑ Flow Control: Off

☑ AutoMDI[X]: Manual MDI Configuration

☑ Data Rate Control: Limit All Frames; No Limit (Full bandwidth)

☑ LAN Port Speed/Duplex: Auto Negotiation

☑ Max Frame Size: 1522 if tagged or 1518 if not tagged

☐ Restore Base Configuration

Event Alert Levels

38 At the top of this window is a setting to specify the Event Alert Level. The NJ240FX can alert you when specific events occur. While this lets you monitor and respond to network events more quickly, it also creates an additional workload. As a result, the Event Alert Level is initially disabled. When you check the box next to it, a default of "Level 2 – Allow standard alerts" will appear in the field. You can increase or decrease the alert level as you wish. Details of events that will prompt an alert at each level will be shown in the text field below the Event Alert Level.

You can change the Alert Level if you want to be notified of specific events happening with the IntelliJack. Each level above 0 provides different types of event alerts as described below:

Alert Level	**Notifying Event**
Level 0: Disable all alert messages	None
Level 1: Allow critical alerts	Device Power Failure/Reboot Abnormal Reboot IP Address Change

Alert Level	Notifying Event
Level 2: Allow standard alerts	Device Power Failure/Reboot
	Abnormal Reboot
	IP Address Change
	Unauthorized Access
Level 3: Allow all alerts	Device Power Failure/Reboot
	Abnormal Reboot
	IP Address Change
	Unauthorized Access
	Normal Reboot
	NBX phone plugged in
	NBX phone removed

Port Based Controls

39 For the next three settings, first select the port you want to configure.

40 You can turn on Flow Control for a specific port. Setting Flow Control to Off (the default setting) allows full passage of traffic regardless of how quickly it is processed by the IntelliJack.

You may want to turn Flow Control On if you discover that large amounts of traffic are being sent to the IntelliJack and it is dropping Ethernet packets. The Flow Control sends a message to the upstream switch the IntelliJack is connected to, telling it to slow down the rate at which it forwards traffic. This will slow down the network.

41 The IntelliJack has the ability to configure AutoMDI[X]. Manual MDI configuration (the default value) assumes that the patch cords between the IntelliJack's PAN port and the device it's plugged into are straight-through cables (not cross-over cables).

If you use cross-over cables to connect devices to your network, you would need to set this option to Manual MDIX Configuration so that network traffic can pass between the device and the PAN port of the IntelliJack.

42 You may want change the Data Rate Control options for either ingress or egress traffic. The default settings allow all types of traffic to pass through the IntelliJack at full bandwidth.

You can change the frame limitations to slow down or block particular types of traffic. For example, you may want to allow unicast traffic to pass at full bandwidth but restrict broadcast traffic because you are concerned about a type of network activity that triggers unwanted broadcast storms. With the Data Rate Control, you can configure the IntelliJack to only allow unicast traffic to pass.

With Data Rate Control settings, you can reduce the network traffic speed on the IntelliJack to as little as 128 Kbps. This can be useful if the machine is in a public area where you only want to provide a minimum speed connection.

Even though there are only eight rate limiting choices in the pull-down menu, you can actually increase the number of options you have by setting the Priority Levels on the Priority and VLAN Configuration tab.

The following chart shows the various options you can choose on a per port basis:

Priority Option	**0**	**2**	**4**	**6**
Multiplier	1	2	4	8
Rate limiting option				
128 Kbps	128 Kbps	256 Kbps	512 Kbps	1 Mb
256 Kbps	256 Kbps	512 Kbps	1 Mb	2 Mb
512 Kbps	512 Kbps	1 Mb	2 Mb	4 Mb
1 Mb	1 Mb	2 Mb	4 Mb	8 Mb
2 Mb	2 Mb	4 Mb	8 Mb	16 Mb
4 Mb	4 Mb	8 Mb	16 Mb	32 Mb
8 Mb	8 Mb	16 Mb	32 Mb	64 Mb
No limit	Up to 100 Mb	Up to 100 Mb	Up to 100 Mb	Up to 100 Mb

43 You can change the LAN Port Speed and Duplex settings. The default setting is for the switch to automatically negotiate a speed and duplex that matches your current network. However, you can select a setting between 10 and 100Mbps and between Half and Full Duplex.

NOTE: The LAN Port Speed and Duplex settings will not work for the NJ240FX because you cannot configure the fiber uplink. This field will be grayed out if you are using the Configuration Management software with an NJ240FX.

44 You can change the Maximum Frame Size setting if your network uses non-standard frame sizes.

The standard maximum size of an Ethernet frame is 1518 bytes. If a VLAN tag is added, the maximum size increases to 1522 bytes. As a result, this is the default setting. If your network uses larger frames, you can select the 1536 byte option.

Restoring to Base Configurations

45 At the bottom of this window is an option to restore some of the configuration settings to their default values. If you check this box, the following settings will be restored:

Global Setting	**Default Value**
Max Frame Size	1518 or 1522 if tagged
Counter Mode	Count good frames
Priority Scheduling Mode	8, 4, 2, 1 weighted
VLAN Tag for LAN Port (egress)	Egress frame unmodified
VLAN Tag for LAN Port (ingress)	Ingress frame unmodified
Power Forward	Auto detection
Local Configuration	Enable
SNMP SET	Enable
SNMP Traps	Disabled
Event Alert	Level 2

Global Setting	Default Value
ATU Table	Blank
VTU Table	Blank
All RADIUS settings	Blank
802.1X Supplicant Status	Disabled
802.1X Supplicant User Name and Password	Blank

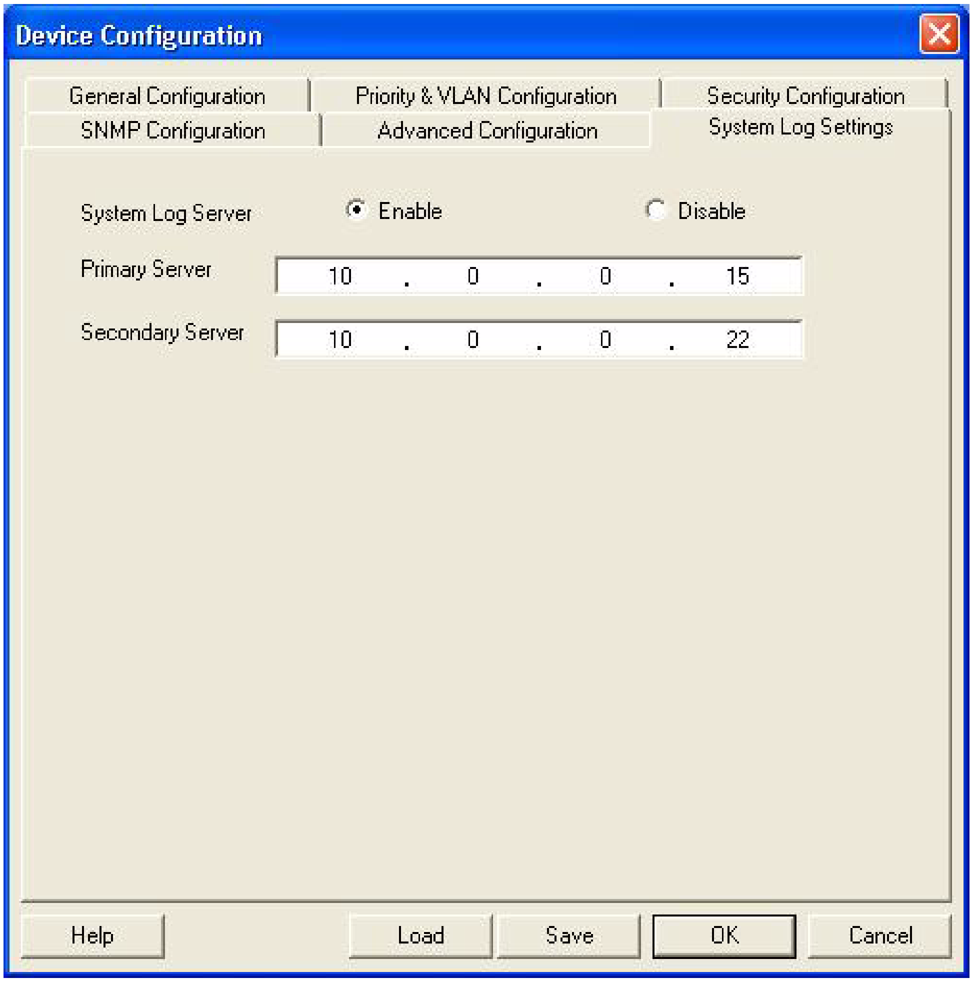
Port Setting	Default Value
State	Forwarding
Link	Auto negotiation
Flow Control	Off
MDI[X]	Force MDI
Multicast Limit	3%
Priority Lookup	Tag & IPV4
Port Priority	0 or 1
VLAN ID	1
802.1Q VLAN Mode	Disable VLANs
Data Rate Limit	All frames
Maximum Data Rate	No limit

The values that remain unchanged when you click Restore Base Configuration are:

- Group Name
- Location Name
- Password
- IP Address
- DHCP Settings
- SNMP Get, Set, and Trap Community Strings
- SNMP Trap Destination IP Address
- Subnet Mask
- Gateway
- Device Log (stored in EEPROM)
- Management Port VID

System Log Settings

Select the System Log Settings tab to view this window:



Device Configuration

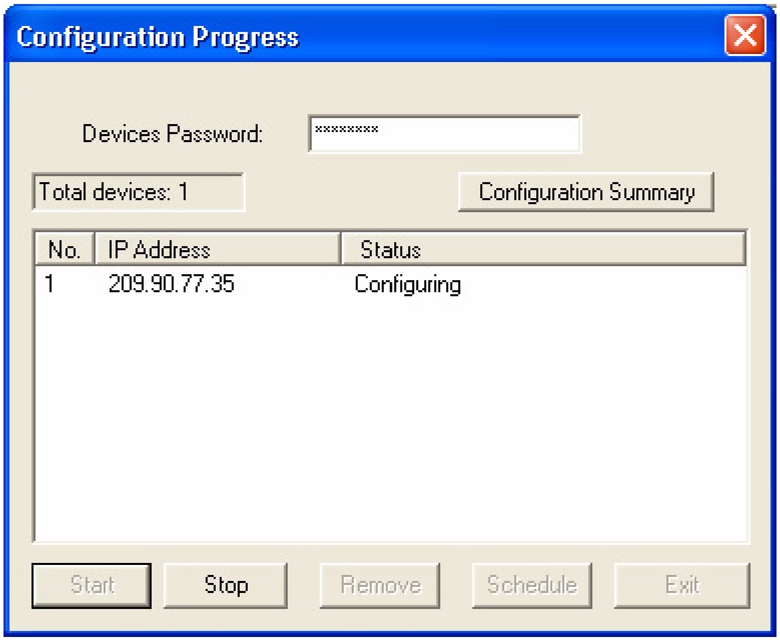
System Log Server ● Enable ○ Disable

Primary Server 10 . 0 . 0 . 15

Secondary Server 10 . 0 . 0 . 22

46 If you are running a Syslog Server on your network, you can configure the NJ240FX to send Syslog messages to this server. You can specify up to two different Syslog servers to receive these messages.

47 When you are finished entering the configuration changes to your IntelliJack, click the OK button and a Configuration Progress dialog box will appear. If you don’t want to apply the changes you made, click Exit to discard those changes and exit the window.



Devices Password: *********

Total devices: 1

No.	IP Address	Status
1	209.90.77.35	Configuring

48 If you click Configuration Summary, you will see a summary of all the changes you have made. Enter your password and click Start. As the IntelliJacks are configured, their status will be updated in the Status column.

49 If you want to schedule the configuration changes to take effect at a later time or date, click the Schedule button. The schedule function lets you schedule when you want a configuration operation to occur. For example, you could turn ports on and off at pre-designated times. In a public area, for instance, you may want to provide network access between the hours of 7:00 a.m. and 10:00 p.m. You can use the schedule function to automatically turn off the ports at 10:00 p.m. You can even use this feature to automatically repeat the operation on a regular basis.

NOTE: If an IntelliJack that was once discovered by the Central Configuration Manager is no longer connected to your network or if you just want to remove a device from the current database, you can select Delete Device from the Devices menu.

From the file menu, you can use the features Backup and Restore. The Backup operation lets you save a snapshot of the configuration of one or more IntelliJacks. You would most likely use the Backup operation if you wanted to save the configurations of a number of IntelliJacks (e.g., all the IntelliJacks in a particular subnet).

When you use the Backup operation, you will be asked for a Secret Key. This is different than the IntelliJack passwords you have already defined. It is a password that protects the backup configuration.

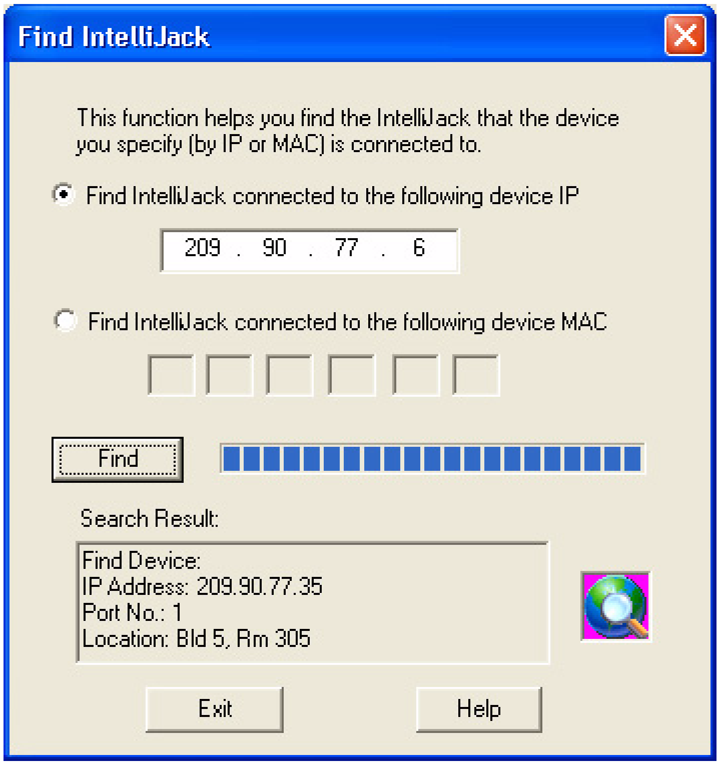
The Restore operation lets you recover configurations you saved with Backup. When you initiate a Restore, you will be asked for the Secret Key you established with the Backup operation.

Finding Computers Connected to NJ240FX Devices

Occasionally you may need to find out which IntelliJack a networked device, such as a PC, is connected to. This is one of the many situations where the Location Information field of the NJ240FX can be very useful.

If you know the IP address or MAC address of the computer or networked device, you can use the Central Configuration Manager to find the right IntelliJack.

1 Select Find Location from the Tools menu. You will see a window like this:



Find IntelliJack

This function helps you find the IntelliJack that the device you specify (by IP or MAC) is connected to.

● Find IntelliJack connected to the following device IP

209 . 90 . 77 . 6

○ Find IntelliJack connected to the following device MAC

Search Result:

Find Device:
IP Address: 209.90.77.35
Port No.: 1
Location: Bld 5, Rm 305

2 Enter the IP address or the MAC address of the network device you wish to find.

3 Click the Find button.

When the search is complete, the Search Results field will display the IP address of the NJ240FX that the network device is connected to. It will also show the Location Name assigned to the IntelliJack and which PAN port the network device is using.

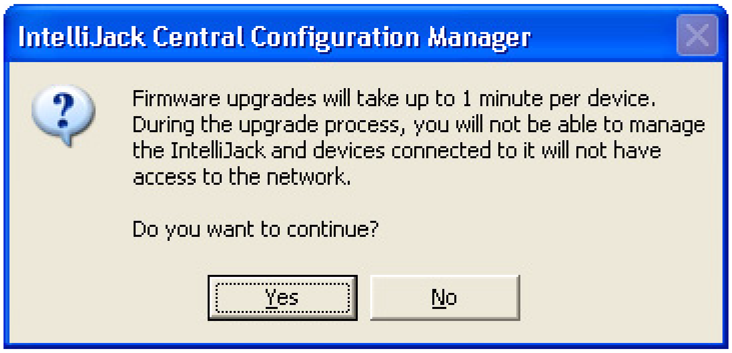
4 Click OK to close the window.

Upgrading the NJ240FX Firmware

You can upgrade the firmware on your NJ240FXs over the network from the Central Configuration Manager. To do so, follow these steps:

1 Select one or more IntelliJacks you want to upgrade. You can select groups of IntelliJacks using one of the grouping options available to you in the drop-down list at the top left corner of the main window.

2 Select Upgrade from the devices menu. A window like this will appear:



Firmware upgrades will take up to 1 minute per device. During the upgrade process, you will not be able to manage the IntelliJack and devices connected to it will not have access to the network.

Do you want to continue?

3 Select Yes to continue the upgrade operation. A window like this will appear:

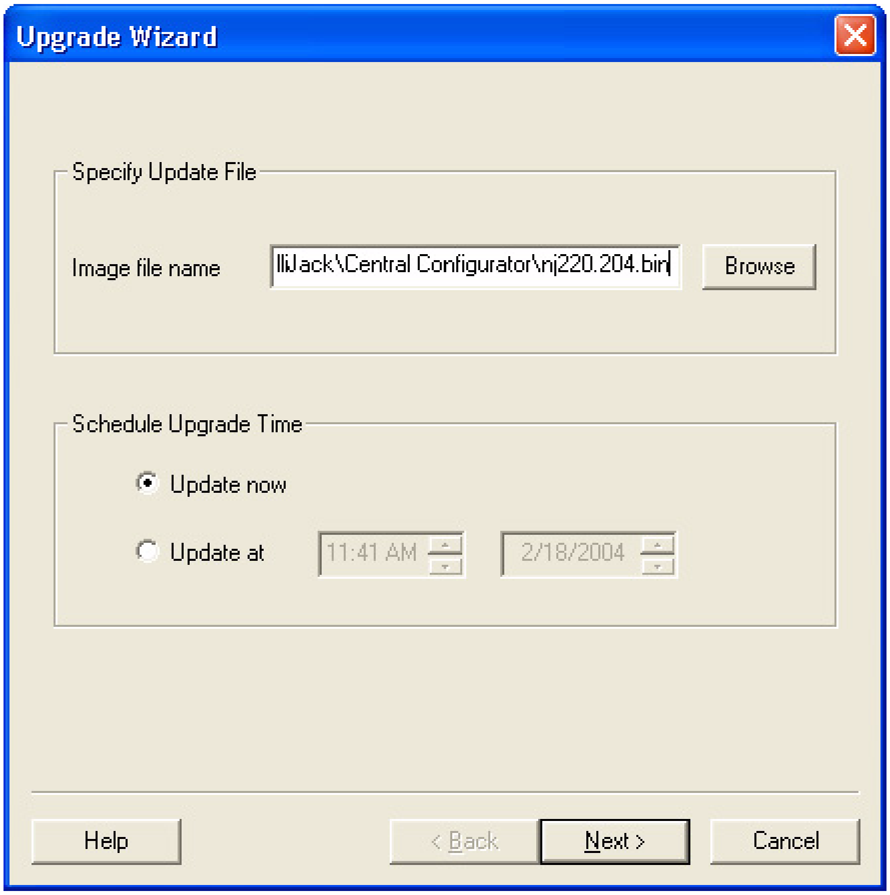


Image file name: lliJack\Central Configurator\nj220.204.bin

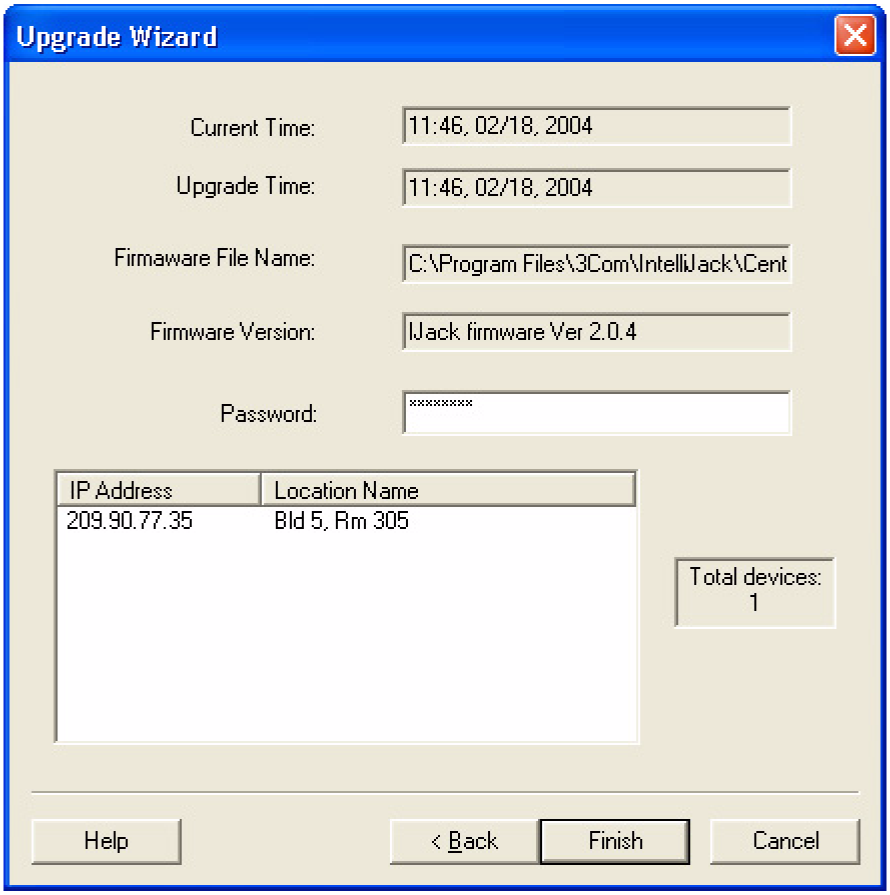
● Update now

○ Update at 11:41 AM 2/18/2004

4 Select a valid firmware image by typing the path to the file or by using the Browse button. This file is the one that you have downloaded and saved to your hard disk drive. You should direct the path in this field to that file.

5 Select the time to perform the upgrade. You can either send the update file immediately or select a specific time and date to send the file. You may, for example, want to perform an upgrade during off hours such as a weekend.

6 Click Next and a window like this will appear:



Current Time: 11:46, 02/18, 2004

Upgrade Time: 11:46, 02/18, 2004

Firmaware File Name: C:\Program Files\3Com\IntelliJack\Cent

Firmware Version: IJack firmware Ver 2.0.4

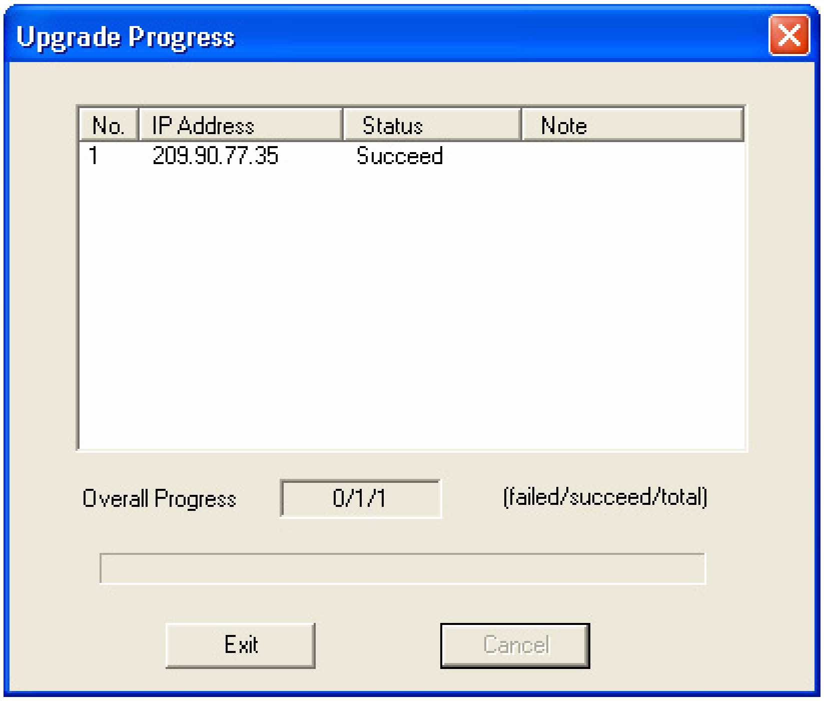
Password: *********

IP Address	Location Name
209.90.77.35	Bld 5, Rm 305

Total devices: 1

7 Review the list of IntelliJacks you want to upgrade. If you want to modify this list, click Cancel and restart the firmware upgrade procedure.

8 Type your password in the Password field, then click Finish. The Upgrade Progress dialog box will appear.

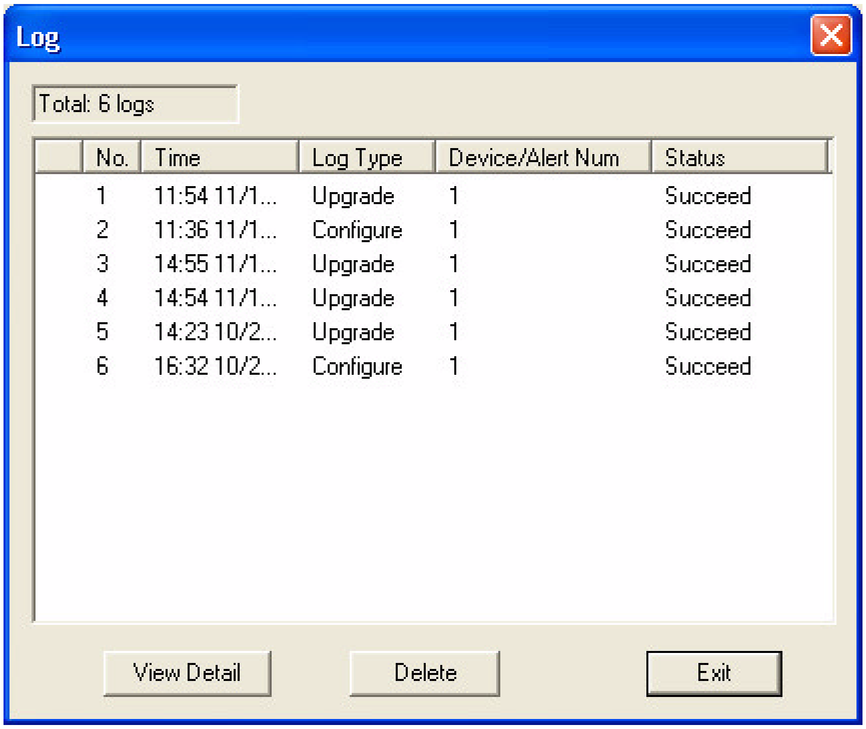


No.	IP Address	Status	Note
1	209.90.77.35	Succeed	

Overall Progress 0/1/1 (failed/succeed/total)

Viewing Log Files

The Central Configuration Manager creates a log file with details of the firmware upgrades, configuration operations, and alert messages from the IntelliJack. This file is in the Central Configurator\Log subdirectory under the directory where you installed the IntelliJack configuration software. You can the log by selecting Log History from the View menu. A window like this will appear:



Total: 6 logs

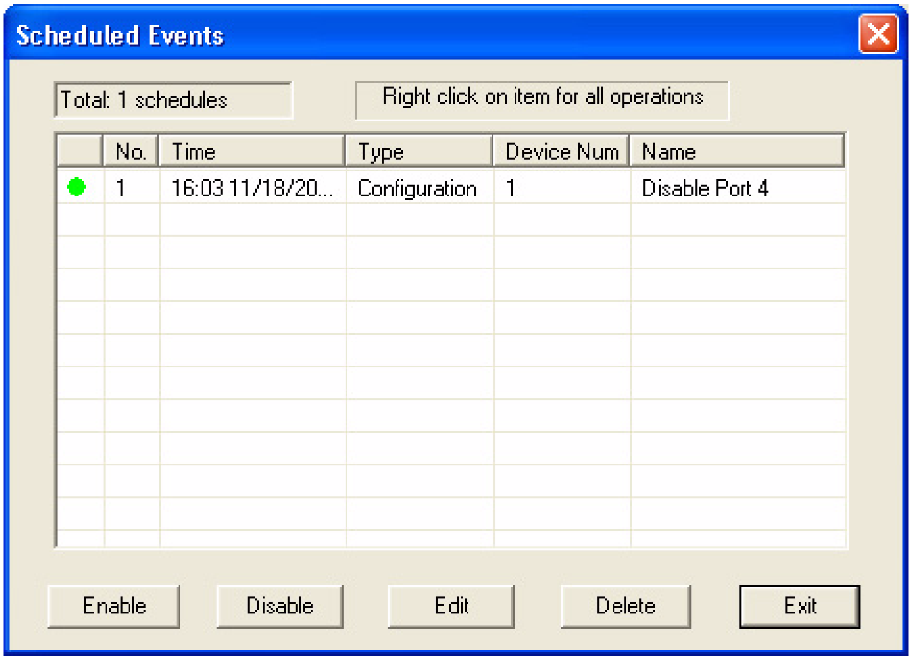
No.	Time	Log Type	Device/Alert Num	Status
1	11:54 11/1...	Upgrade	1	Succeed
2	11:36 11/1...	Configure	1	Succeed
3	14:55 11/1...	Upgrade	1	Succeed
4	14:54 11/1...	Upgrade	1	Succeed
5	14:23 10/2...	Upgrade	1	Succeed
6	16:32 10/2...	Configure	1	Succeed

To view the details of a particular log, select it and click Detail. If an upgrade or configuration operation fails for some reason, a message will appear in the log file. Consult the troubleshooting guide for more information.

Viewing and Canceling Scheduled Firmware Upgrades

You can select a time and date to send an upgraded firmware image to the IntelliJacks in your network. To view and make changes to the firmware upgrades you have scheduled, follow these steps:

1 Select Manage Schedule from the Tools menu. A window like this will appear:



Scheduled Events

Total: 1 schedules

Right click on item for all operations

	No.	Time	Type	Device Num	Name
●	1	16:03 11/18/20...	Configuration	1	Disable Port 4

2 To view the details of a scheduled upgrade, select it from the list and click Show Devices. To cancel a scheduled upgrade, select it from the list and click Delete.

A Troubleshooting the NJ240FX

If you encounter problems with the IntelliJack:

- Verify the IntelliJack is receiving power by viewing the Power LED (it should be on). If the Power LED is not on, make sure that:
  - The local power supply is plugged into the IntelliJack and into a working electrical outlet.
- Verify the IntelliJack is connected to the network properly by viewing the Link LED (it should be on). If the Link LED is not on, make sure the network cable:
  - Is terminated properly. Refer to the connector manufacturer's instructions for terminating the cable. Be sure to test the connector and verify it is working.
  - Has a valid connection to the network.
  - Adheres to proper length and cabling specifications for your network.
- The IntelliJack is configured for manual MDI. Be sure to use a straight-through cable. If you want to use a cross-connect cable, you must change settings in the Configuration Manager software.

Troubleshooting Matrix

Event/Message	Description	Solution
Power LED is not on	IntelliJack is not receiving power	■ Ensure power supply is properly connected. ■ Make sure the upstream switch is configured and active
Link LED is not on	IntelliJack has no connection to the network	■ Make sure network cable is properly terminated. ■ Make sure the IntelliJack is connected to the network. ■ Make sure the cable is plugged into the workgroup switch. ■ Make sure the upstream switch is configured and active
Green LEDs on Ports 1-4 are not on	Network device has no connection to IntelliJack	■ Make sure the cable is properly connected to the network device. ■ Make sure the cable is firmly connected to one of the four IntelliJack ports labeled 1-4. ■ Make sure the cable is a good straight-through cable.

Event/Message	Description	Solution
Amber LED on Port 1 is not on	Power is not being forwarded to network device	■ Make sure the cable is properly connected to Port 1 of the IntelliJack. ■ Make sure the cable is properly connected to the powered device. ■ Make sure the IntelliJack is configured to match the cable - either straight through or crossover. ■ Make sure the powered device is IEEE 802.3af compatible. ■ Make sure the power requirement for the powered device does not exceed 7 watts. The IntelliJack can only forward up to 7 watts.
Power LED is blinking continuously	Unit has detected a problem. Traffic can pass through, but management will not work.	■ Contact 3Com Technical Support.
Authentication Failure	Wrong password has been entered	■ Confirm correct password and re-type.
Timeout	Device did not respond within a specified period of time	■ Refresh the screen after a few seconds. If the problem persists, try to rediscover the device.
Attributes Error	Unexpected configuration parameters	■ Confirm that you have specified valid parameter values and retry the configuration operation. ■ NOTE: This error should not appear to the user under normal conditions.
General Error	Something other than authentication failure, timeout or attributes error has occurred	■ Retry the operation you were performing. ■ NOTE: This error should not appear to the user under normal conditions.

B Obtaining Support

3Com provides easy access to technical support information through a variety of services. This appendix describes these services.

Information contained in this appendix is correct at time of publication. For the most recent information, 3Com recommends that you access the 3Com Corporation World Wide Web site.

Register Your Product to Gain Service Benefits

To take advantage of warranty and other service benefits, you must first register your product at

`http://eSupport.3com.com/`

3Com eSupport services are based on accounts that you create or have authorization to access. First time users must apply for a user name and password that provides access to a number of eSupport features including Product Registration, Repair Services, and Service Request.

Purchase Value-Added Services

To enhance response times or extend warranty benefits, contact 3Com or your authorized 3Com reseller. Value-added services can include 24x7 telephone technical support, software upgrades, onsite assistance or advance hardware replacement. Experienced engineers are available to manage your installation with minimal disruption to your network. Expert assessment and implementation services are offered to fill resource gaps and ensure the success of your networking projects. More information on 3Com Extended Warranty and Professional Services is available at http://www.3com.com/

Where To Go For Help

Contact your authorized 3Com reseller or 3Com for additional product and support information. You will find support tools posted on the 3Com web site at www.3com.com

Troubleshoot Online

3Com Knowledgebase helps you troubleshoot 3Com products. This query-based interactive tool is located at http://knowledgebase.3com.com/ and contains thousands of technical solutions written by 3Com support engineers.

Connection Assistant helps you install, configure and troubleshoot 3Com desktop and server NICs, wireless cards and Bluetooth devices. This diagnostic software is located at http://www.3com.com/prodforms/software/connection_assistant/ca_thankyou.html

Access Software Downloads

Software Updates are the bug fix / maintenance releases for the version of software initially purchased with the product. In order to access these Software Updates you must first register your product on the 3Com web site at http://eSupport.3com.com/. First time users will need to apply for a user name and password. A link to software downloads can be found from this http://eSupport.3com.com/ page, or located from the www.3Com.com home page.

Software Upgrades are the software releases that follow the software version included with your original product. In order to access upgrades and related documentation you must first purchase a service contract from 3Com or your reseller.

Contact Us

3Com offers telephone, e-mail and internet access to technical support and repair services. To access these services for your region, use the appropriate telephone number, URL or e-mail address from the list below. You will find a current directory of support telephone numbers posted on the 3Com web site at

`http://csoweb4.3com.com/contactus/`

Telephone Technical Support and Repair

To obtain telephone support as part of your warranty and other service benefits, you must first register your product at

`http://eSupport.3com.com/`

When you contact 3Com for assistance, please have the following information ready:

- Product model name, part number, and serial number
- A list of system hardware and software, including rev level
- Diagnostic error messages
- Details about recent configuration changes, if applicable

To send a product directly to 3Com for repair, you must first obtain a return authorization number (RMA). Products sent to 3Com, without authorization numbers clearly marked on the outside of the package, will be returned to the sender unopened, at the sender's expense. If your product is registered and under warranty, you can obtain an RMA number online at

`http://eSupport.3com.com/`

First time users will need to apply for a user name and password.

These numbers are correct at the time of publication. Find a current directory of support telephone numbers posted on the 3Com web site at

`http://csoweb4.3com.com/contactus/`

Asia, Pacific Rim

Country	Telephone Number	Country	Telephone Number
Australia	1 800 678 515	Philippines	1235 61 266 2602 or
Hong Kong	800 933 486		1800 1 888 9469
India	+61 2 9424 5179 or	P.R. of China	10800 61 00137 or
	000800 650 1111		021 6350 1590 or
Indonesia	001 803 61009		00800 0638 3266
Japan	00531 616 439 or	Singapore	800 6161 463
	03 5977 7991	S. Korea	080 333 3308
Malaysia	1800 801 777	Taiwan	00801 611 261
New Zealand	0800 446 398	Thailand	001 800 611 2000
Pakistan	+61 2 9937 5083		
You can also obtain support in this region using the following e-mail, apr_technical_support@3com.com			
Or request a repair authorization number (RMA) by fax using this number:	+ 65 543 6348		

Europe, Middle East, and Africa

From anywhere in these regions, call:	+44 (0)1442 435529		
You can also obtain support in this region using the following URL:	http://emea.3com.com/support/email.html		
From the following countries, you may use the numbers shown:			
Austria	01 7956 7124	Luxembourg	342 0808128
Belgium	070 700 770	Netherlands	0900 777 7737
Denmark	7010 7289	Norway	815 33 047
Finland	01080 2783	Poland	00800 441 1357
France	0825 809 622	Portugal	707 200 123
Germany	01805 404 747	South Africa	0800 995 014
Hungary	06800 12813	Spain	9 021 60455
Ireland	01407 3387	Sweden	07711 14453
Israel	1800 945 3794	Switzerland	08488 50112
Italy	199 161346	U.K.	0870 909 3266

Latin America

You can obtain support in this region using the following URLs:

Spanish speakers, enter the URL:

`http://lat.3com.com/lat/support/form.html`

Portuguese speakers, enter the URL:

`http://lat.3com.com/br/support/form.html`

English speakers in Latin America should send e-mail to:

`lat_support_anc@3com.com`

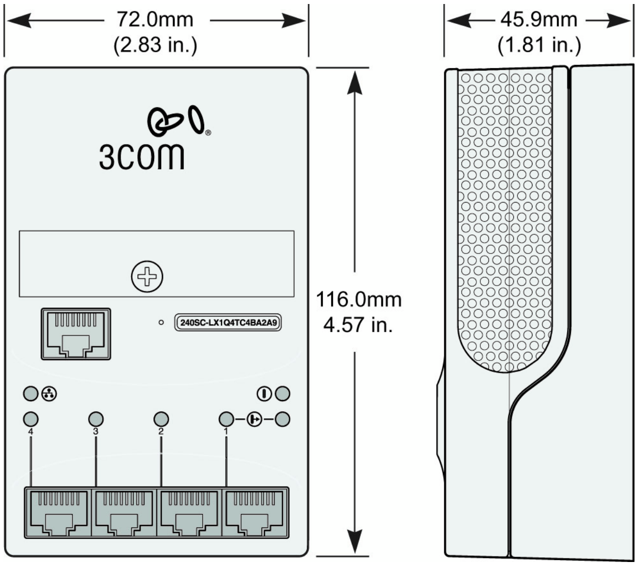
Or call using the following numbers:

Antigua	1 800 988 2112	Guatemala	AT&T +800 998 2112
Argentina	0 810 444 3COM	Haiti	57 1 657 0888
Aruba	1 800 998 2112	Honduras	AT&T +800 998 2112
Bahamas	1 800 998 2112	Jamaica	1 800 998 2112
Barbados	1 800 998 2112	Martinique	571 657 0888
Belize	52 5 201 0010	Mexico	01 800 849CARE
Bermuda	1 800 998 2112	Nicaragua	AT&T +800 998 2112
Bonaire	1 800 998 2112	Panama	AT&T +800 998 2112
Brazil	0800 13 3COM	Paraguay	54 11 4894 1888
Cayman	1 800 998 2112	Peru	AT&T +800 998 2112
Chile	AT&T +800 998 2112	Puerto Rico	1 800 998 2112
Colombia	AT&T +800 998 2112	Salvador	AT&T +800 998 2112
Costa Rica	AT&T +800 998 2112	Trinidad and Tobago	1 800 998 2112
Curacao	1 800 998 2112	Uruguay	AT&T +800 998 2112
Ecuador	AT&T +800 998 2112	Venezuela	AT&T +800 998 2112
Dominican Republic	AT&T +800 998 2112	Virgin Islands	57 1 657 0888

North America

Telephone Technical Support and Repair	1 847-262-0070

C Product Specifications



Hardware	
Power consumption	<5 watts without power forwarding Maximum 13 watts with power forwarding (depending on the device drawing power)
Network Interface	
10 Mbps Ethernet 10BASE-T	Ethernet IEEE 802.3 industry standard for a 10 Mbps baseband CSMA/CD local area network
100 Mbps Ethernet 100BASE-TX	Ethernet IEEE 802.3u industry standard for a 100 Mbps baseband CSMA/CD local area network
100 Mbps Ethernet 100BASE-FX	Ethernet IEEE 802.3u industry standard for a 100 Mbps fiber local area network
Performance	
Auto-negotiation	Communication speed (10 Mbps or 100 Mbps) and duplex mode (full or half) can be determined through auto-negotiation with the attached devices. The IntelliJack attempts to negotiate the fastest connection possible (100 Mbps full-duplex). The communication speed and duplex mode can also be controlled using the configuration management software.

Power Ratings	
Input rated	100 - 240 V AC, 50 - 60 Hz, 0.3 A
Output rated	48 V DC, 300 mA
MIB Support	MIB II (RFC 1213) Bridge MIB (RFC 1493) Ether-like MIB (RFC 1643) MIB for MAUs (RFC 2668) MIB for bridge with extensions (RFC 2674) 802.1x MIBs RADIUS Authentication Client MIB (RFC 2618) RADIUS Accounting Client MIB (RFC 2620)
3Com Proprietary MIBs	Backup & Restore MIB RADIUS Client MIB
Standard Traps	Link Up Link Down Cold Start Authentication Failure
Proprietary Traps	SecureLogon SecureLogoff SecureLoginFailure
Environment	
Operating temperature	32° to 104° F (0° to 40° C)
Storage temperature	-22° to 194° F (-30°- to 90° C)
Operating humidity	10-90% noncondensing
Storage humidity	10-90% noncondensing
Operating Altitude	8,000 ft. max
Storage Altitude	20,000 ft. max
Standards Conformance	
IEEE802.3 10BASE-T, 100BASE-TX and auto-negotiation	
Power Over Ethernet (Capacitive Power Discovery Process and IEEE 802.3af)	
Power forwarding (IEEE802.3af; 7 watts, 48 volts)	

Features	
Local power supply	Required for networks that do not support Power Over Ethernet
Voice Over IP (VoIP)	Compatible with VoIP standard.
Power forwarding	Power forwarding Port number 1 can be used with any standard networking device as well as to power a device such as a VoIP telephone on a network that uses IEEE 802.3af-compatible Power Over Ethernet.
RMON Counters	
InUnicasts	Total valid frames received with a unicast Destination Address. A valid frame has a good FCS and its size is greater than 64 bytes and less than 1518 for non tagged frames, 1522 for tagged frames, or 1535 if MaxFrameSize =1 (set in global control register).
InBroadcasts	Total valid frames received with destination address equal to FF:FF:FF:FF:FF:FF.
InPause	Total pause frames received.
InMulticasts	Total valid frames received with multicast destination address that are not counted in InBroadcasts or InPause.
InFCSErr	Total frames received with a valid length and an invalid FCS.
AlignErr	Total frames received with valid length that have an invalid FCS and a non-integral number of octets.
InGoodOctets	Total data octets received in frames with a valid FCS. Undersize and oversize frames are included. The count includes the FCS but not the preamble.
InBadOctets	Total data octets received in frames with an invalid FCS; fragments and jabbers are included, The count includes the FCS but not the preamble.
Undersize	Total frames received with a length of less than 64 octets but a valid FCS.
Fragments	Total frames received with a length of less than 64 octets and an invalid FCS
In64Octets	Total frames received with a length of exactly 64 octets, including those with errors.
In127Octets	Total frames received with a length of between 65 and 127 octets inclusive, including those with errors.
In255Octets	Total frames received with a length of between 128 and 255 octets inclusive, including those with errors.
In511Octets	Total frames received with a length of between 256 and 511 octets inclusive, including those with errors.
In1023Octets	Total frames received with a length of between 512 and 1023 octets inclusive, including those with errors.
InMaxOctets	Total frames received with a length of between 1024 and MaxSize octets inclusive, including those with errors.

Jabber

Total frames received with a length of more than MaxSize octets but with an invalid FCS.

Oversize

Total frames received with a length of more than MaxSize octets but with a valid FCS.

InDiscards

Total valid frames received that are discarded due to lack of buffer space. This includes frames discarded at ingress as well as those dropped due to priority and congestion considerations at the output queues. Frames dropped at egress due to excessive collisions are not included but are counted in the Excessive counter.

InFiltered

If 802.1Q is disabled on the port, these are the total valid frames received that are not forwarded to a destination port. These are frames for which the destination port vector is 0 or are not forwarded due to the state of the portState bits. valid frames discarded due to a lack of buffer space are not included.

If 802.1Q is enabled on the port, then these are the total valid frames received (tagged or untagged) that were discarded due to an unknown VID (i.e., the frame's VID was not in the VTU)

OutUnicasts

Total valid frames transmitted with a unicast destination address

OutBroadcasts

Total valid frames transmitted with destination address equal to FF:FF:FF:FF:FF:FF.

OutPause

Total pause frames transmitted.

OutMulticasts

Total valid frames transmitted with multicast destination address that are not counted in OutBroadcasts or OutPause.

OutFCSErr

Total frames transmitted with a valid length and an invalid FCS.

OutGoodOctets

Total data octets transmitted. The count includes the FCS but not the preamble.

Out64Octets

Total frames transmitted with a length of exactly 64 octets, including those with errors.

Out127Octets

Total frames transmitted with a length of between 65 and 127 octets inclusive, including those with errors.

Out255Octets

Total frames transmitted with a length of between 128 and 255 octets inclusive, including those with errors.

Out511Octets

Total frames transmitted with a length of between 256 and 511 octets inclusive, including those with errors.

Out1023Octets

Total frames transmitted with a length of between 512 and 1023 octets inclusive, including those with errors.

OutMaxOctets

Total frames transmitted with a length of between 1024 and 1522 octets inclusive, including those with errors.

Collisions

Total number of collisions during frame transmission.

Late

Total number of times collision is detected later than 512 bit-times into the transmission of a frame.

Excessive	Total number of frames not transmitted because the frame experienced 16 transmission attempts and was discarded. The discard will only occur if DiscardExcessive is set to a 1 (in global control register).
Multiple	Total number of successfully transmitted frames that experienced more than on collision.
Single	Total number of successfully transmitted frames that experienced exactly one collision.
Deferred	Total number of successfully transmitted frames that are delayed because the medium is busy during the first attempt.

3COM CORPORATION LIMITED WARRANTY

This warranty applies to customers located in the United States, Australia, Canada (except Quebec), Ireland, New Zealand, UK and other English language countries, and countries for which a translation into the local language is not provided.

3COM INTELLIJACK HARDWARE

3Com warrants to the end user ("Customer") that this hardware product will be substantially free from material defects in workmanship and materials, under normal use and service, for the following length of time from the date of purchase from 3Com or its authorized reseller:

Limited Lifetime, for as long as the original Customer owns the product or for 5 years after product discontinuance, whichever occurs first (not transferable to a subsequent end user). FOR NON-US CUSTOMERS: Where a limited lifetime warranty is not permitted by local law, a 10 year warranty period shall be given by 3Com. The duration of this warranty shall be modified where necessary to meet any minimum warranty required by law.

3Com's sole obligation under this express warranty shall be, at 3Com's option and expense, to repair the defective product or part, deliver to Customer an equivalent product or part to replace the defective item, or if neither of the two foregoing options is reasonably available, refund to Customer the purchase price paid for the defective product. All products that are replaced will become the property of 3Com. Replacement products or parts may be new or reconditioned. 3Com warrants any replaced or repaired product or part for ninety (90) days from shipment, or the remainder of the initial warranty period, whichever is longer.

3COM INTELLIJACK SOFTWARE

3Com warrants to Customer that each software program licensed from it, except as noted below, will, if operated as directed in the user documentation, substantially achieve the functionality described in the user documentation for a period of ninety (90) days from the date of purchase from 3Com or its authorized reseller. No updates or upgrades are provided under this warranty. 3Com's sole obligation under this express warranty shall be, at 3Com's option and expense, to refund the purchase price for the software product or replace the software product with software which meets the requirements of this warranty as described above. Customer assumes responsibility for the selection of the appropriate programs and associated reference materials.

3Com makes no warranty or representation that its software products will meet Customer's requirements or work in combination with any hardware or software products provided by third parties, that the operation of the software products will be uninterrupted or error free, or that all defects in the software products will be corrected. For any third party products listed in the 3Com software product documentation or specifications as being compatible, 3Com will make reasonable efforts to provide compatibility, except where the non-compatibility is caused by a "bug" or defect in the third party's product or from use of the software product not in accordance with 3Com's published specifications or user manual.

THIS 3COM PRODUCT MAY INCLUDE OR BE BUNDLED WITH THIRD PARTY SOFTWARE. THE WARRANTY PROVISIONS OF THIS DOCUMENT DO NOT APPLY TO SUCH THIRD PART SOFTWARE. IF A SEPARATE END USER LICENSE AGREEMENT HAS BEEN PROVIDED FOR SUCH THIRD PARTY SOFTWARE, USE OF THAT SOFTWARE WILL BE GOVRNED BY THAT AGREEMENT. FOR ANY APPLICABLE WARRANTY, PLEASE REFER TO THE END USER LICENSE AGREEMENT GOVERNING THE USE OF THAT SOFTWARE.

REGULATORY INFORMATION

US FEDERAL COMMUNICATIONS COMMISSION (FCC) EMC COMPLIANCE

This device complies with Part 15 of the FCC Rules. Operation is subject to the following two conditions: (1) this device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation.

This equipment has been tested and found to comply with the limits for a Class A digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference when the equipment is operated in a commercial environment. This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instruction manual, may cause harmful interference to radio communications. Operation of this equipment in a residential area is likely to cause harmful interference in which case the user will be required to correct the interference at his own expense.

Changes or modifications not expressly approved by 3Com could void the user's authority to operate this equipment.

INDUSTRY CANADA - EMISSIONS COMPLIANCE STATEMENT

This Class A digital apparatus complies with Canadian ICES-003.

AVIS DE CONFORMITÉ À LA RÉGLEMENTATION D'INDUSTRIE CANADA

Cet appareil numérique de la classe A est conform à la norme NMB-003 du Canada.

EU COMPLIANCE

This product is in compliance with the essential requirements and other relevant provisions of Directives 73/23/EEC and 89/336/EC.

Manual version1.0

March, 2005